

JAMAICA.

FEBRUARY 24, 1883.

No. 23.

WEATHER REPORT

FOR THE MONTH OF JANUARY,

1883.

FROM THE JAMAICA GAZETTE.

February 22nd, 1883.

WITH ADDITIONS AND CORRECTIONS.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79, DUKE STREET, KINGSTON.
1883.

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1883
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National Oceanic and Atmospheric Administration

Climate Database Modernization Program

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March 28, 2002

METEOROLOGICAL RESULTS FOR JANUARY, 1883.

METEOROLOGICAL RESULTS FOR JAN., 1883.

KINGSTON :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure	30.094	30.024	30.109	30.076
Temperature of the air	71° 3	82° 8	72° 8	75° 6
Dew-point	66.3	70.6	67.6	68.2
Humidity	84	68	84	79
Maximum Temp.	...	...	...	85° 4
Minimum Temp.	...	...	...	69.8
Range of Temp.	...	...	...	15.6
Minimum Temp. on Grass	...	...	...	63.1
Direction of the Wind	...	...	...	S.E.
Velocity of Wind in Miles per Hour	...	...	...	4.2
Percentage of Cloud	...	...	...	42

Total Rainfall—3.73 inches.

Average Weather :—Fair, with showers.

The highest temperature was 89° 8 recorded on the 4th; the lowest was 66° 7 recorded on the 22nd; the extreme range was therefore 23° 1. The lowest temperature on the grass was 59° 1 recorded on the 23rd.

CINCHONA PLANTATION :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric Pressure	7 a.m. ...	3 p.m. ...	11 p.m. ...	25.318
Temperature of the air	7 a.m. ...	3 p.m. ...	11 p.m. ...	58° 0
Dew-point	7 a.m. ...	3 p.m. ...	11 p.m. ...	63.0
Maximum Temperature	...	...	...	67.1
Minimum Temperature	...	...	...	56.8
Range of Temperature	...	...	...	10.3
Temperature six feet under ground	...	...	...	64.0
Direction of Wind	...	...	...	E.
Velocity of Wind in Miles per hour	...	...	...	4.9

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32° that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range, elevation about 5,600 feet) the mean maximum and minimum temperatures were 67° 5 and 52° 0 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 88° 6 and 66° 3 respectively.

THE RAINFALL FOR JANUARY, 1883.

The average January Rainfall, given in the second column for different stations, is taken from the article on Meteorology in the *Handbook of Jamaica*; and, as there explained, it applies to the January Rainfall during the ten years from 1870 to 1879 inclusive.

NORTH EASTERN DIVISION.

		1883.	Average.
		in.	in.
Morant Point L. H.	St. Thomas	8.99	5.28
Hordley	...	5.10	...
Holland	...	5.81	...
Leith Hall	...	...	...
Potosi	...	...	...
Boston	Portland	11.13	...
Port Antonio	...	6.53	...
Spring Garden	...	...	...
Chepstow	...	...	...
Woodstock	...	10.30	...
Cinchona Plantation	St. Andrew	8.08	10.60
New Haven Gap	...	14.44	...
Belle Vue	...	...	...
Tweedside	...	11.99	...
Stony Hill	...	7.27	...

NORTH-EASTERN DIVISION, continued.

JANUARY.

1883 | Average.

		in.	in.
Castleton Gardens	St. Mary	6.34	9.71
Dover	...	10.60	...
Annotto Bay	...	...	...
Water Valley	...	6.14	10.72
Quebec	...	8.92	...
Port Maria	...	9.93	...
New Ramble	...	13.88	7.68
Gayle	...	10.93	...
Llanrumny	...	14.35	...
Goshen	...	7.02	...
Rio Hoe	St. Ann	4.96	...
Unity Valley	...	6.19	...
Albion	...	4.85	6.15
Bradfield	...	5.34	8.24
Drax Hall	...	13.76	7.30
Seville	...	10.44	...
Richmond Estate	...	10.65	...
Llandoverly	...	7.46	...
Mean	...	8.94	8.15

NORTHERN DIVISION.

JANUARY.

1883. | Average.

		in.	in.
Lillyfield	St. Ann	12.40	...
Home Castle	...	9.00	...
Richmond Pen	...	8.10	...
Colchis Pen	Trelawny	6.04	...
Mahogany Hall	...	...	...
Hopewell	...	5.98	7.21
Brampton Bryan	...	2.71	5.32
Bryan Castle	...	4.09	5.31
Nightingale Grove	...	6.26	...
Braco	...	4.76	5.01
Arcadia	...	6.76	...
Harmony Hall	...	5.15	...
Lancaster	...	6.29	5.12
Valo Royal	...	5.11	5.39
Hyde Hall	...	6.11	...
Swanswick	...	8.70	...
Long Pond	...	7.35	...
Hyde	...	...	...
Georgia	...	7.68	5.02
Steelfield	...	...	...
Etingdon	...	6.68	...
Oxford	...	...	...
Cambridge	...	...	...
Spring	...	5.24	...
Lottery	...	4.92	4.18
Falmouth	...	2.75	4.01
Holland	...	4.83	...
Golden Grove	...	3.40	...
Fontabelle	...	4.30	...
Green Park	...	1.85	...
Tilston	...	4.32	...
Orange Valley	...	7.79	4.79
Kent	...	10.89	...
Dundee	...	6.87	5.31
Gales Valley	...	3.10	4.47
Hampden	St. James	5.89	...
Greenwood	...	3.96	...
Lima	...	...	...
Content	...	...	4.43
Guilbro'	...	4.40	...
Spring Vale	...	4.95	5.65
Latium	...	8.13	...
Success	...	4.57	4.51
Cinnamon Hill	...	...	...
Rose Hall	...	...	...
Running Gut	...	3.35	3.78
Tryall	...	5.40	...
Irwin	...	...	4.32
Ironshore	...	5.24	...

NORTHERN DIVISION, continued.

		JANUARY.	
		1883.	Average.
		In.	In.
Providence	St. James	...	...
Catherine Hall	...	8.81	...
Catherine Mount	...	6.81	4.36
Fairfield	...	5.16	...
Mean		5.85	4.91

WEST CENTRAL DIVISION.

		JANUARY.	
		1883.	Average.
		In.	In.
Linstead	St. Catherine	3.71	...
Worthy Park	...	...	...
Lloyds	...	...	...
Chapelton	Clarendon	...	2.37
Pennants	...	...	...
Whitney	...	4.54	...
Cave Valley	St. Ann	2.70	2.91
Hanbury	Manchester	...	...
Mandeville	...	...	3.37
Marshall's Pen	...	3.20	...
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	3.85	...
Appleton	...	4.02	...
Maroon Town	St. James	6.33	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	6.71	...
Mount Charles	...	3.74	...
Mount Edgewcombe	Westmoreland	5.10	...
Windsor Forest	...	...	...
Kew Park	...	4.36	...
Chester Castle	Hanover	4.93	...
Copse	...	6.18	...
Burnt Ground	...	6.40	...
Haughton Grove	...	6.91	...
Kempshot	St. James	4.31	...
Bandon	...	3.65	...
Anchovy	...	4.52	...
Wiltshire	...	7.02	...
Round Hill	Hanover	4.60	...
Cocoon Castle	...	7.06	...
Sod Hall Pen	...	9.45	...
Golden Grove	...	10.17	...
Tryall	...	2.75	...
Carawina	Westmoreland	2.35	...
Sweet River	...	2.82	...
Paradise Pen	...	3.60	...
Roaring River	...	...	...
Fort William	...	6.84	...
Mackfield	...	5.25	...
Mesopotamia	...	...	...
Cornwall	...	2.47	...
Windsor (Sav.-la-Mar)	...	4.81	...
Fontabelle	...	2.46	...
Frome	...	2.68	...
Belle Isle	...	2.93	...
Retreat	...	2.68	...
Point	Hanover	...	...
Kew Estate	...	4.16	...
Haughton Court	...	1.40	...
Orange Cove	...	1.90	3.96
Prospect	...	...	...
Haughton Hall	...	...	...
Abingdon	...	...	...
Phoenix	...	4.61	...
Mean		4.54	3.16

SOUTHERN DIVISION.

		JANUARY.	
		1883.	Average.
		In.	In.
Albion Hospital	St. Thomas	3.80	...
The Abbey	...	2.95	...
Halberstadt	St. Andrew	2.77	...
Hope Plantation	...	3.13	2.90
Cherry Garden	...	3.68	...
King's House	...	3.73	...
Monaltrie	...	4.45	1.56
Director of Roads' Office, Kingston	...	2.45	1.78
Palisadoes Plantation	...	2.16	...
Plumb Point L. H.	...	2.02	1.16
Spanish Town	St. Catherine	4.00	...
Windsor Park	...	3.00	...
Hog Hole Pen	...	4.21	...
Headworks, R. C. C.	...	6.06	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	4.38	...
Old Harbour	...	4.29	...
Halse Hall	Clarendon	4.73	...
Experiment	...	...	...
The Bog	...	...	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	2.39	1.75
Farm Plantation	Manchester	4.10	...
Great Valley	...	3.42	...
Stones Hope	...	3.59	...
Pepper	St. Elizabeth	...	...
Long Hill	...	2.82	...
Gilnock Hall	...	3.10	...
Santa Cruz	...	2.64	...
Bloomsbury	...	6.62	...
Black River	...	1.86	1.75
Hodges	...	0.00	...
Font Hill	...	...	...
Mean		3.42	1.78

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		JANUARY.	
		1883.	Average.
		In.	In.
North Eastern Division		8.42	8.15
Northern	"	5.11	4.91
West Central	"	2.60	3.16
Southern	"	2.72	1.78
The Island		4.71	4.50

The Rainfall during January was therefore very nearly the average: there were several heavy rains in the North Eastern Division: and at one place in the Southern Division, Hodges, no rain fell.

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 1.71 and 2.02 inches respectively.

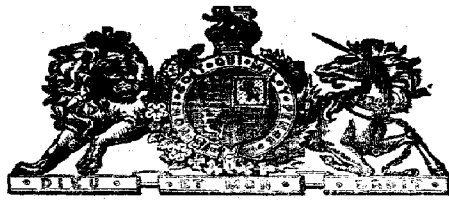
In Kingston the death-rate was 38.0 per thousand; 18 deaths occurred from Phthisis during January,—an increase of 10 upon the previous month, probably due to the increased Rainfall and Wind in Kingston.

MAXWELL HALL.

Kempshot, February 17th, 1883.

NOTE—It is requested that all Rainfall returns and other communications be addressed to me at Montego Bay until further notice.

M. H.



JAMAICA.

MARCH 24, 1883.

No. 24.

WEATHER REPORT

FOR THE MONTH OF FEBRUARY,

1883.

FROM THE JAMAICA GAZETTE.

March 22nd, 1883.

WITH ADDITIONS AND CORRECTIONS.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1883.

METEOROLOGICAL RESULTS FOR FEBRUARY, 1883.

METEOROLOGICAL RESULTS FOR FEB., 1883. KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	30.079	30.001	30.089	30.056
Temperature of the air ...	70°.6	84°.2	71°.9	75°.6
Dew-point ...	64.6	68.1	66.2	66.3
Humidity ...	82	59	82	74
Maximum Temp. ...				86°.4
Minimum Temp. ...				68.7
Range of Temp. ...				17.7
Minimum Temp. on Grass ...				61.4
Direction of the Wind ...				S.E.
Velocity of Wind in Miles per hour ...				4.6
Percentage of Cloud ...				28

Total Rainfall—0.31 inches.

Average Weather:—Clear and fair.

The highest temperature was 90°.4 recorded on the 4th; the lowest was 64°.9 recorded on the 23rd; the extreme range was therefore 25°.5. The lowest temperature on the grass was 57°.0 recorded on the 23rd.

CINCHONA PLANTATION:—

			in.
Barometric Pressure	7 a.m.	...	25.299
"	3 p.m.	...	25.278
Temperature of the air	7 a.m.	...	57°.5
"	3 p.m.	...	62.4
Dew-point	7 a.m.	...	52.4
"	3 p.m.	...	58.8
Maximum Temperature		...	65.5
Minimum Temperature		...	56.2
Range of Temperature		...	9.3
Temperature six feet under ground		...	...
Direction of Wind		...	N.E.
Velocity of Wind in Miles per hour		...	2.1

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range, elevation about 5,600 feet) the mean maximum and minimum temperatures were 64°.6 and 51°.5 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 91°.2 and 65°.7 respectively.

THE RAINFALL FOR FEBRUARY, 1883.

The average February Rainfall, given in the second columns for different stations, is taken from the article on Meteorology in the *Handbook of Jamaica*; and, as there explained, it applies to the February Rainfall during the ten years from 1870 to 1879 inclusive.

NORTH EASTERN DIVISION.

		1883.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	3.57	2.98
Hordley	...	6.85	...
Holland	...	6.40	...
Leith Hall	...	...	...
Potosi	...	...	...
Boston	Portland	7.07	...
Port Antonio	...	9.59	...
Spring Garden	...	14.14	...
Chepstow	...	19.54	...
Woodstock	...	...	...

NORTH-EASTERN DIVISION, continued.

FEBRUARY.

		1883.	Average.
		in.	in.
Cinchona Plantation	St. Andrew	3.81	2.56
New Haven Gap	...	11.06	...
Belle Vue	...	...	...
Newton	...	1.58	...
Twecdside	...	4.43	...
Stony Hill	...	0.66	...
Castleton Gardens	St. Mary	6.47	2.09
Dover	...	...	...
Annotto Bay	...	...	...
Water Valley	...	...	3.68
Quebec	...	9.87	...
Port Maria	...	6.94	...
New Ramble	...	11.18	4.25
Gayle	...	...	...
Llanrumny	...	...	...
Gosben	...	...	...
Rio Hoe	St. Ann	4.34	...
Unity Valley	...	7.55	2.34
Albion	...	4.35	3.30
Bradfield	...	6.07	4.57
Drax Hall	...	6.61	4.52
Seville	...	6.57	...
Richmond Estate	...	7.97	...
Llandoverly	...	6.20	...
Mean		7.20	3.37

NORTHERN DIVISION.

FEBRUARY

		1883.	Average.
		In.	In.
Lillyfield	St. Ann	13.56	...
Home Castle	...	4.80	...
Richmond Pen	...	1.10	...
Colchis Pen	Trelawny	0.83	...
Mahogany Hall	...	1.75	...
Hopewell	...	3.22	2.22
Brampton Bryan	...	1.56	1.64
Bryan Castle	...	4.35	1.94
Nightingale Grove	...	2.52	...
Braco	...	4.58	2.21
Arcadia	...	4.16	...
Harmony Hall	...	4.38	...
Lancaster	...	4.27	2.32
Vale Royal	...	4.56	2.73
Hyde Hall	...	2.40	...
Swanswick	...	2.48	...
Long Pond	...	2.15	...
Hyde	...	...	...
Georgia	...	4.41	2.53
Steelfield	...	...	...
Etingdon	...	4.20	...
Oxford	...	...	...
Cambridge	...	...	...
Spring	...	4.68	...
Lottery	...	2.78	2.02
Falmouth	...	3.93	1.59
Holland	...	2.83	...
Golden Grove	...	0.40	...
Fontabelle	...	0.85	...
Green Park	...	2.45	...
Tilston	...	1.37	...
Orange Valley	...	3.55	2.57
Kent	...	3.01	...
Dundee	...	2.03	2.57
Gales Valley	...	0.85	1.97
Hampden	St. James	1.36	...
Greenwood	...	2.56	...
Lima	...	...	...
Content	...	...	2.21
Gullsbro'	...	1.30	...
Spring Vale	...	...	2.04

NORTHERN DIVISION, *continued.*

		FEBRUARY.	
		1883.	Average.
		In.	In.
Latium	St. James	...	...
Success	...	4.21	1.84
Cinnamon Hill	...	...	...
Rose Hall	...	...	...
Bunning Gut	...	2.95	1.43
Tryall	...	1.93	1.45
Irwin	...	1.77	...
Ironshore	...	2.23	...
Providence	...	...	...
Catherine Hall	...	1.67	...
Catherine Mount	...	1.23	1.6
Fairfield	...	1.14	...
Mean		2.89	2.09

WEST CENTRAL DIVISION.

		FEBRUARY.	
		1883.	Average.
		In.	In.
Linstead	St. Catherine	1.75	...
Worthy Park	...	0.79	...
Lloyds	...	2.00	...
Chapelton	Clarendon	...	2.88
Pennants	...	...	...
Whitney	...	2.18	...
Cave Valley	St. Ann	0.52	2.66
Hanbury	Manchester	...	...
Mandeville	...	...	2.47
Marshall's Pen	...	1.17	...
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	...	...
Appleton	...	3.64	...
Maroon Town	St. James	1.16	...
Holland	St. Elizabeth	2.52	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	...	...
Mount Charles	...	...	...
Mount Edgecombe	Westmoreland	4.11	...
Windsor Forest	...	5.54	...
Kew Park	...	5.72	...
Chester Castle	Hanover	2.98	...
Copao	...	1.00	...
Burnt Ground	...	0.95	...
Haughton Grove	...	2.73	...
Kempshot	St. James	1.20	...
Bandon	...	1.57	...
Anchovy	...	0.62	...
Wiltshire	...	1.20	...
Round Hill	Hanover	1.45	...
Cacoon Castle	...	1.00	...
Sod Hall Pen	...	1.95	...
Golden Grove	...	...	...
Tryall	...	0.33	...
Carawina	Westmoreland	...	...
Sweet River	...	6.61	...
Paradise Pen	...	6.55	...
Roaring River	...	...	...
Fort William	...	6.82	...
Mackfield	...	5.57	...
Mesopotamia	...	3.29	...
Cornwall	...	4.06	...
Windsor (Sav.-la-Mar)	...	5.65	...
Fontabelle	...	4.43	...
Frome	...	6.56	...
Belle Isle	...	6.14	...

WEST CENTRAL DIVISION, *continued.*

		FEBRUARY.	
		1883.	Average.
		In.	In.
Grange Hill	...	6.09	...
Retreat	...	7.54	...
Point	Hanover	...	...
Kew Estate	...	1.30	...
Haughton Court	...	1.59	...
Orange Cove	...	1.53	2.49
Prospect	...	2.72	...
Haughton Hall	...	...	...
Abingdon	...	1.16	...
Phoenix	...	...	...
Mean		3.06	2.62

SOUTHERN DIVISION.

		FEBRUARY.	
		1883.	Average.
		In.	In.
Albion Hospital	St. Thomas	1.00	...
The Abbey	...	1.23	...
Halberstadt	St. Andrew	0.28	...
Hope Plantation	...	0.49	1.13
Cherry Garden	...	0.71	...
King's House	...	0.31	...
Monaltrie	...	0.35	1.21
Director of Roads' Office, Kingston	...	0.15	1.02
Palisadoes Plantation	...	...	...
Plumb Point L. H.	...	0.25	1.04
Spanish Town	St. Catherine	1.01	...
Windsor Park	...	1.52	...
Hog Hole Pen	...	1.30	...
Headworks, R. C. C.	...	1.89	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	0.19	...
Old Harbour	...	1.03	...
Halse Hall	Clarendon	1.04	...
Experiment	...	...	...
The Bog	...	1.61	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	...	1.64
Farm Plantation	Manchester	2.26	...
Great Valley	...	...	...
Stones Hope	...	1.21	...
Pepper.	St. Elizabeth	...	...
Long Hill	...	0.90	...
Gilnock Hall	...	2.56	...
Santa Cruz	...	4.19	...
Bloomsbury	...	3.58	...
Black River	...	3.48	1.85
Hodges	...	1.20	...
Font Hill	...	...	...
Mean		1.35	1.31

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		FEBRUARY.	
		1883.	Average.
		In.	In.
North Eastern Division		6.20	3.37
Northern	"	3.12	2.09
West Central	"	2.00?	2.62
Southern	"	0.95	1.31
The Island		3.07	2.35

The Rainfall during February was therefore a little above the average: at Chepstow and Spring Garden in the North Eastern Division the Rainfall was excessive—19½ and 14 inches respectively; but Kingston, in the Southern Division, was very dry.

At the Plumb Point Light House the upper gauge is 68 feet above the lower: these gauges registered 0.18 and 0.29 inches respectively.

In Kingston the death-rate was 40.5 per thousand; there were 7 deaths from Fever, and 11 from Dysentery and Diarrhoea: the numbers for January were 2 and 3 respectively. The increase due to the latter causes keeps pace with the increase of Range of Temperature, as usual; but there has been so little fever in Kingston the last two years that its Meteorological conditions are still unknown. There were 14 deaths this month from Phthisis, against 18 the previous month; this decrease being due to the drier weather.

A slight shock of Earthquake was felt at Haughton Grove on the 1st February at 10.27 p.m. apparently from the N.W., according to information kindly sent me by the Hon. A. Watson Taylor. The shock was

also felt in Savanna-la-Mar; and another was felt there on the 22nd, but no particulars have been sent me.

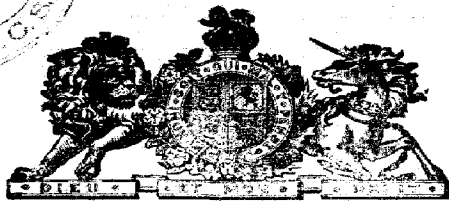
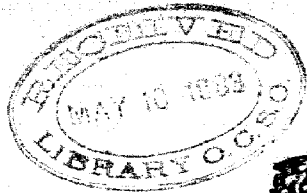
This note made by Mr. Watson Taylor is very valuable. In the "First Report on Earthquakes in Jamaica" (Gazette, Sept. 22nd, 1881) it was remarked that while the districts of St. David, Port Royal, St. George, and Metcalfe had certain geological peculiarities favourable to shocks, the same peculiarities occur at the extreme western end of the Island, where shocks seldom occur. This western Earthquake centre is in the parish of Hanover, where the Limestone meets the Carbonaceous shale, south of Mosquitto Cove, and about 10 miles N. W. of Haughton Grove. I would be glad of further information of this shock from any one who may have felt it in Hanover or Westmoreland.

MAXWELL HALL.

Kempshot, March 15th, 1883.

Montego Bay P.O.

* No. 4 of the series of reprints of Meteorological Reports published in the Jamaica Gazette.



JAMAICA.

APRIL 28, 1883.

No. 25.

WEATHER REPORT

FOR THE MONTH OF MARCH,

1883.

FROM THE JAMAICA GAZETTE.

April 26th, 1883.

WITH ADDITIONS AND CORRECTIONS.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1883.

METEOROLOGICAL RESULTS FOR MARCH, 1883.

METEOROLOGICAL RESULTS FOR MARCH, 1883. KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	30.059	29.990	30.066	30.038
Temperature of the air ...	71°·6	82°·1	78°·6	75°·8
Dew-point ...	67.5	70.3	70.1	69.3
Humidity ...	87	69	89	82
Maximum Temp. ...	...	...	...	84°·2
Minimum Temp. ...	...	...	...	69.0
Range of Temp. ...	...	...	...	15.2
Minimum Temp. on Grass ...	...	...	...	62.6
Direction of the Wind ...	...	...	S.E. by S.	...
Velocity of Wind in Miles per hour ...	...	...	...	4.1
Percentage of Cloud ...	...	...	...	35

Total Rainfall—2.57 inches.

Average Weather:—Fair.

The highest temperature was 87°·6 recorded on the 31st; the lowest was 64°·6 recorded on the 5th; the extreme range was therefore 23°·0. The lowest temperature on the grass was 58°·3 recorded on the 5th and 13th.

CINCHONA PLANTATION:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric Pressure ...	7 a.m.	...	...	25.286
" ...	3 p.m.	...	...	25.268
Temperature of the air ...	7 a.m.	...	...	58°·4
" ...	3 p.m.	...	...	61.6
Dew-point ...	7 a.m.	...	...	52
" ...	3 p.m.	...	...	59
Maximum Temperature ...	...	...	...	65.8
Minimum Temperature ...	...	...	...	55.6
Range of Temperature ...	...	...	...	10.2
Temperature six feet under ground ...	...	...	...	...
Direction of Wind ...	...	...	...	Caln
Velocity of Wind in Miles per hour ...	...	...	...	...

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32° that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range, elevation about 5,600 feet) the mean maximum and minimum temperatures were 68°·8 and 50°·9 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 88°·6 and 64°·8 respectively.

THE RAINFALL FOR MARCH, 1883.

The average March Rainfall, given in the second columns for different stations, is taken from the article on Meteorology in the *Handbook of Jamaica*; and, as there explained, it applies to the March Rainfall during the ten years from 1870 to 1879 inclusive.

NORTH EASTERN DIVISION.

		MARCH.	
		1883.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	2.16	2.14
Hordley	...	5.25	...
Holland	...	4.01	...
Leith Hall	...	...	...
Potosi	...	...	...
Boston	Portland	5.00	...
Port Antonio	...	5.07	...
Spring Garden	...	...	...
Chepstow	...	...	...
Woodstock	...	3.42	...

NORTH-EASTERN DIVISION, continued.

		MARCH.	
		1883.	Average.
		in.	in.
Cinchona Plantation	St. Andrew	6.28	8.83
New Haven Gap	...	10.84	...
Belle Vue	...	...	...
Newton	...	4.70	...
Tweedside	...	10.32	...
Stony Hill	...	5.68	...
Castleton Gardens	St. Mary	8.09	4.73
Dover	...	2.53	...
Annotto Bay	...	...	...
Water Valley	...	3.00	4.80
Quebec	...	...	...
Port Maria	...	6.37	...
New Raubale	...	6.89	6.55
Gayle	...	11.45	...
Laurumny	...	4.59	...
Goshen	...	7.94	...
Rio Hoe	St. Ann	6.77	...
Unity Valley	...	8.06	4.97
Albion	...	7.76	4.18
Bradfield	...	10.25	5.53
Drax Hall	...	8.28	4.04
Seville	...	7.71	...
Richmond Estate	...	6.09	...
Ilundoverly	...	3.61	...
Mean	...	6.38	5.09

NORTHERN DIVISION.

		MARCH.	
		1883.	Average.
		In.	In.
Lillyfield	St. Ann	13.51	...
Home Castle	...	4.50	...
Richmond Pen	...	6.84	...
Colchis Pen	Trelawny	3.04	...
Mahogany Hall	...	4.14	...
Hopewell	...	4.27	3.06
Brampton Bryan	...	...	2.40
Bryan Castle	...	...	2.34
Nightingale Grove	...	3.45	...
Braco	...	3.77	2.10
Arcadia	...	4.08	...
Harmony Hall	...	4.07	...
Lancaster	...	3.97	2.56
Vale Royal	...	4.07	2.66
Hyde Hall	...	3.05	...
Swanswick	...	3.12	...
Long Pond	...	3.00	...
Georgia	...	2.85	2.42
Steelfield	...	...	...
Etingdon	...	4.40	...
Oxford	...	...	...
Cambridge	...	...	...
Spring	...	4.18	...
Lottery	...	3.27	2.32
Falmouth	...	3.14	2.03
Holland	...	1.95	...
Golden Grove	...	2.00	...
Fontabelle	...	...	...
Green Park	...	...	...
Tilston	...	3.19	...
Orange Valley	...	2.85	2.28
Kent	...	2.79	...
Dundee	...	1.80	3.22
Gales Valley	...	1.75	2.35
Hampden	St. James	2.83	...
Greenwood	...	3.93	...
Lima	...	...	...
Content	...	...	3.01
Guildsbro'	...	0.30	...
Swinsvale	...	...	3.77

NORTHERN DIVISION, *contd.*

		MARCH.	
		1883.	Average.
		In.	In.
Latium	St. James	2.00	...
Success	...	...	2.30
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	1.60
Tryall	...	0.38	...
Irwin	...	0.92	2.62
Ironshore	...	0.21	...
Providence	...	0.00	...
Catherine Hall	...	1.95	...
Catherine Mount	...	1.54	1.77
Fairfield	...	1.20	...
Mean		3.12	2.52

WEST CENTRAL DIVISION.

		MARCH.	
		1883.	Average.
		In.	In.
Linstead	St. Catherine	2.84	...
Worthy Park	...	3.32	...
Lloyds	...	7.55	...
Chapelton	Clarendon	...	3.89
Pennants	...	...	...
Whitney	...	1.07	...
Cave Valley	St. Ann	3.95	4.51
Hanbury	Manchester	...	...
Mandeville	...	...	4.76
Marshall's Pen	...	5.14	...
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	4.11	...
Appleton	...	5.22	...
Maroon Town	St. James	4.05	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	3.59	...
Mount Charles	...	...	...
Mount Edgecombe	Westmoreland	5.57	...
Windsor Forest	...	...	...
Kew Park	...	4.55	...
Chester Castle	Hanover	5.01	...
Copse	...	2.25	...
Burnt Ground	...	7.54	...
Haughton Grove	...	4.31	...
Kempshot	St. James	2.17	...
Bandon	...	4.01	...
Anchovy	...	1.91	...
Wiltshire	...	2.19	...
Round Hill	Hanover	1.93	...
Cacoon Castle	...	1.00	...
Sod Hall Pen	...	8.00	...
Golden Grove	...	6.07	...
Tryall	...	4.21	...
Carawina	Westmoreland	5.40	...
Sweet River	...	5.25	...
Paradise Pen	...	5.20	...
Roaring River	...	...	...
Fort William	...	6.55	...
Mackfield	...	...	...
Mesopotamia	...	4.35	...
Cornwall	...	6.56	...
Windsor (Sav.-la-Mar)	...	4.89	...
Fontabelle	...	4.24	...
Frome	...	3.80	...

WEST CENTRAL DIVISION, *contd.*

		MARCH.	
		1883.	Average.
		In.	In.
Belle Isle	Westmoreland	4.25	...
Grange Hill	...	2.99	...
Retreat	...	2.67	...
Point	Hanover	...	...
Kew Estate	...	6.85	...
Haughton Court	...	...	...
Orange Cove	...	7.14	2.64
Prospect	...	1.84	...
Haughton Hall	...	...	...
Abingdon	...	2.04	...
Phoenix	...	...	...
Mean		4.28	3.95

SOUTHERN DIVISION.

		MARCH.	
		1883.	Average.
		In.	In.
Albion Hospital	St. Thomas	0.00	...
The Abbey	...	2.74	...
Halberstadt	St. Andrew	1.54	...
Hope Plantation	...	3.74	2.61
Constant Spring	...	4.31	...
Cherry Garden	...	4.16	...
King's House	...	3.87	...
Monaltrie	...	2.57	1.60
Director of Roads' Office, Kingston	...	3.15	1.47
Palisadoes Plantation	...	1.04	...
Plumb Point L. H.	...	1.09	0.94
Spanish Town	St. Catherine	2.81	...
Windsor Park	...	1.74	...
Hog Hole Pen	...	5.57	...
Headworks, R. C. C.	...	7.39	...
Cedars	...	3.88	...
Lodge Estate	...	...	...
Roden Pen	...	1.51	...
Old Harbour	...	2.10	...
Halse Hall	Clarendon	...	...
Experiment	...	...	...
The Bog	...	1.33	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	0.52	2.33
Farm Plantation	Manchester	1.42	...
Great Valley	...	2.26	...
Stones Hope	...	0.71	...
Pepper	St. Elizabeth	...	...
Long Hill	...	4.39	...
Gilnock Hall	...	5.91	...
Santa Cruz	...	4.28	...
Bloomsbury	...	2.81	...
Black River	...	2.85	2.44
Hodges	...	5.40	...
Font Hill	...	...	...
Mean		3.41	2.01

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		MARCH.	
		1883.	Average.
		In.	In.
North Eastern Division		6.75	5.09
Northern	"	2.85	2.52
West Central	"	5.02	3.95
Southern	"	2.32	2.01
The Island		4.23	3.39

The Rainfall over the Island was therefore an inch and undescribed causes; but it is to be noticed that above the average; in the West-Central Division the rains there were the same number of deaths from fever as in February and more deaths from Dysentery and Diarrhoea. The lowest temperature of the year was 64° 6 recorded on the 5th of March, the lowest temperature in February being 64° 9, thereby keeping up and even increasing the number of deaths from the latter causes.

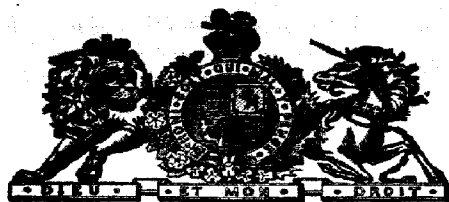
At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.96 and 1.09 inches respectively.

In Kingston the death-rate was 53.8 per thousand, which is somewhat higher than usual; this increase is apparently due to more deaths from Infantile Diseases

MAXWELL HALL.

Kempshot, April 19th, 1883.

Montego Bay P.O.



JAMAICA.

JUNE 5, 1883.

No. 26.

WEATHER REPORT

FOR THE MONTH OF APRIL,

1883.

FROM THE JAMAICA GAZETTE.

May 24th, 1883.

SECOND EDITION.

WITH ADDITIONS AND CORRECTIONS.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1883.

METEOROLOGICAL RESULTS FOR APRIL, 1883.

METEOROLOGICAL RESULTS FOR APRIL, 1883.

KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric pressure ...	30.020	29.945	30.021	29.995
Temperature of the air ...	76° 6	83° 4	74° 7	78° 2
Dew-point ...	67.7	71.6	69.1	69.5
Humidity ...	74	68	83	75
Maximum Temp. ...	...	...	...	85° 4
Minimum Temp. ...	...	...	...	70.5
Range of Temp. ...	...	...	...	14.9
Minimum Temp. on Grass ...	...	...	...	64.4
Direction of the Wind ...	...	...	...	S.E.
Velocity of Wind in Miles per hour ...	...	...	...	4.5
Percentage of Cloud ...	...	...	...	39

Total Rainfall—0.28 inches.

Average Weather:—Fair.

The highest temperature was 88° 8 recorded on the 7th; the lowest was 66° 8 recorded on the 17th; the extreme range was therefore 22° 0. The lowest temperature on the grass was 60° 4 recorded on the 17th.

CINCHONA PLANTATION:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
Barometric Pressure	7 a.m.	...	...	25.262
"	3 p.m.	...	...	25.237
Temperature of the air	7 a.m.	...	...	60° 5
"	3 p.m.	...	...	63.6
Dew-point	7 a.m.	...	...	54.0
"	3 p.m.	...	...	60.4
Maximum Temperature	...	...	...	68.0
Minimum Temperature	...	...	...	56.7
Range of Temperature	...	...	...	11.3
Temperature six feet under ground	...	...	...	...
Direction of the Wind	...	...	...	E.
Velocity of Wind in Miles per hour	...	...	...	2.5

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range, elevation about 5,600 feet) the mean maximum and minimum temperatures were 71° 5 and 50° 1 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 90° 1 and 64° 8 respectively.

THE RAINFALL FOR APRIL, 1883.

The average April rainfall, given in the second columns for different stations, is taken from the article on Meteorology in the *Handbook of Jamaica*; and, as there explained, it applies to the April Rainfall during the ten years from 1870 to 1879 inclusive.

NORTH EASTERN DIVISION.

		APRIL.	
		1883.	Average.
		<i>in.</i>	<i>in.</i>
Morant Point L. H.	St. Thomas	1.43	3.90
Hordley	...	3.69	...
Holland	...	1.89	...
Leith Hall	...	...	...
Potoai	...	...	...
Boston	Portland	3.74	...
Port Antonio	...	5.65	...
Spring Garden	...	...	...
Chepstow	...	...	...
Woodstock	...	2.09	...

NORTH-EASTERN DIVISION, continued.

		APRIL.	
		1883.	Average.
		<i>in.</i>	<i>in.</i>
Cinchona Plantation	St. Andrew	2.83	9.34
New Haven Gap	...	3.51	...
Belle Vue	...	...	...
Newton	...	3.91	...
Twecdside	...	3.56	...
Stony Hill	...	4.42	...
Castleton Gardens	St. Mary	...	6.14
Dover	...	2.83	...
Annotto Bay	...	...	...
Water Valley	...	1.83	3.78
Quebec	...	...	...
Port Maria	...	1.69	...
New Ramble	...	2.83	3.04
Gayle	...	2.67	...
Llanrumny	...	1.41	...
Goshen	...	1.72	...
Rio Hoe	St. Ann	0.51	...
Unity Valley	...	1.35	5.22
Albion	...	1.23	4.19
Bradfield	...	0.66	4.11
Drax Hall	...	1.30	2.43
Seville	...	2.14	...
Richmond Estate	...	2.57	...
Llandovery	...	2.41	...
Mean		2.46	4.68

NORTHERN DIVISION.

		APRIL.	
		1883.	Average.
		<i>in.</i>	<i>in.</i>
Lillyfield	St. Ann	4.01	...
Home Castle	...	3.00	...
Richmond Pen	...	3.20	...
Colchis Pen	Trelawny	3.44	...
Mahogany Hall	...	...	...
Hopewell	...	1.56	3.37
Brampton Bryan	...	...	2.42
Bryan Castle	...	...	2.23
Nightingale Grove	...	0.50	...
Braco	...	1.69	2.38
Arcadia	...	0.95	...
Harmony Hall	...	1.66	...
Lancaster	...	1.55	2.14
Vale Royal	...	1.14	2.80
Hyde Hall	...	0.75	...
Swanswick	...	0.98	...
Long Pond	...	1.22	...
Georgia	...	1.57	2.19
Steelfield	...	...	...
Etingdon	...	1.01	...
Oxford	...	...	...
Cambridge	...	...	...
Spring	...	0.56	...
Lottery	...	0.44	2.06
Falmouth	...	2.26	1.80
Holland	...	0.76	...
Golden Grove	...	0.05	...
Fontabelle	...	...	...
Green Park	...	0.48	...
Tilston	...	0.65	...
Orange Valley	...	0.73	2.20
Kent	...	0.71	...
Dundee	...	0.08	2.50
Gales Valley	...	0.20	2.06
Hampden	...	0.50	...
Greenwood	St. James	0.96	...
Lima	...	0.23	...
Content	...	0.92	2.45
Gullsbro'	...	0.50	...
Spring Vale	...	4.10	4.43
Latium	...	1.10	...
Success	...	0.15	2.11

NORTHERN DIVISION *contd.*

		APRIL.	
		1883.	Average.
		In.	In.
Cinnamon Hall	St. James.	0.20	...
Rose Hall	...	0.17	...
Running Gut	...	0.46	1.56
Tryall	...	...	...
Irwin	...	...	2.58
Ironshore	...	1.63	...
Providence	...	0.70	...
Catherine Hall	...	1.42	...
Catherine Mount	...	1.26	2.20
Fairfield	...	1.64	...
Mean		1.19	2.51

WEST CENTRAL DIVISION.

		APRIL.	
		1883.	Average.
		In.	In.
Linstead	St. Catherine	3.36	...
Worthy Park	...	2.48	...
Lloyds	...	3.41	...
Chapelton	Clarendon	...	2.72
Pennants	...	...	...
Whitney	...	4.31	...
Cave Valley	St. Ann	9.15	4.55
Hanbury	Manchester	...	...
Mandeville	...	...	3.98
Marshall's Pen	...	3.92	...
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	5.27	...
Appleton	...	9.09	...
Maroon Town	St. James	...	...
Holland	St. Elizabeth	7.06	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	11.61	...
Mount Charles	...	6.97	...
Mount Edgecombe	Westmoreland	7.25	...
Windsor Forest	...	...	...
Kew Park	...	10.74	...
Chester Castle	Hanover	8.89	...
Copse	...	6.06	...
Burnt Ground	...	10.10	...
Haughton Grove	...	6.54	...
Kempshot	St. James	3.47	...
Bandon	...	...	...
Anchovy	...	1.94	...
Wiltshire	...	2.14	...
Round Hill	Hanover	0.47	...
Cacoon Castle	...	...	...
Sod Hall Pen	...	11.00	...
Golden Grove	...	4.95	...
Tryall	...	1.60	...
Carawina	Westmoreland	6.69	...
Sweet River	...	7.45	...
Paradise Pen	...	7.50	...
Roaring River	...	...	...
Fort William	...	9.47	...
Mackfield	...	11.48	...
Mesopotamia	...	...	...
Cornwall	...	8.76	...
Windsor (Say-la-Mar)	...	8.98	...
Fontabelle	...	5.13	...
Frome	...	6.47	...
Belle Isle	...	5.82	...
Grange Hill	...	8.70	...
Retreat	...	4.56	...

WEST CENTRAL DIVISION, *contd.*

		APRIL.	
		1883.	Average.
		In.	In.
Point	Hanover	...	...
Kew Estate	...	6.55	...
Haughton Court	...	4.16	...
Orange Cove	...	2.15	3.31
Prospect	...	...	...
Haughton Hall	...	10.50	...
Abingdon	...	11.84	...
Phoenix	...	...	...
Mean		6.53	3.64

SOUTHERN DIVISION.

		APRIL.	
		1883.	Average.
		In.	In.
Albion Hospital	St. Thomas	1.04	...
The Abbey	...	1.42	...
Halberstadt	St. Andrew	2.92	...
Hope Plantation	...	1.03	2.43
Constant Spring	...	...	...
Cherry Garden	...	...	...
King's House	...	2.31	...
Monaltrie	...	1.22	1.48
Director of Roads' Office, Kingston	...	0.33	1.19
Palisadoes Plantation	...	0.43	...
Plumb Point L. H.	...	0.65	1.13
Spanish Town	St. Catherine	4.06	...
Windsor Park	...	3.84	...
Hog Hole Pen	...	4.17	...
Headworks, R. C. C.	...	1.05	...
Cedars	...	...	...
Lodge Estate	...	3.41	...
Roden Pen	...	2.51	...
Old Harbour	...	1.75	...
Springfield	...	2.29	...
Halse Hall	Clarendon	...	...
Experiment	...	0.70	...
The Dog	...	4.01	...
Greenwich	...	0.80	...
Yarmouth	...	...	...
Denbigh	...	1.14	2.23
Farm Plantation	Manchester	3.95	...
Great Valley	...	5.91	...
Stones Hope	...	4.69	...
Pepper	St. Elizabeth	...	...
Long Hill	...	6.58	...
Gilnock Hall	...	7.06	...
Santa Cruz	...	4.82	...
Bloomsbury	...	9.83	...
Black River	...	3.65	3.10
Hodges	...	2.96	...
Font Hill	...	...	...
Mean		3.00	2.17

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		APRIL.	
		1883.	Average.
		In.	In.
North Eastern Division		1.68	4.68
Northern		1.21	2.51
West Central		4.76	3.64
Southern		1.34	2.17
The Island		2.25	3.25

The Rainfall over the Island was therefore an inch below the average: in the previous month of March

the Rainfall was an inch above the average, and thus the average is maintained. In April there was a falling off in the North Eastern Division, and an increased Rainfall in the West-Central Division—in accordance with the usual change in the rain-giving process.

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.42 and 0.65 respectively.

The death-rate in Kingston was 39.1 per thousand in April, against 53.8 per thousand in March; there were fewer deaths from Dysentery and Diarrhoea, the range of temperature continuing small; and there were fewer deaths from Phthisis, the air being drier, or rather, the Rainfall being smaller:—the Rainfall in April being only 0.28 inches against 2.57 inches in March.

A slight shock of Earthquake was felt in Kingston about 11.5 a.m. on April 8th; it was felt by Dr. Mannors in the district of St. David; and also by Mr. Morris at the Cinchona Plantation. The latter writes me:—

"A slight shock of earthquake was felt here on Sunday, the 8th instant, at 11.12 a.m. The shock was so slight that I was unable to notice its direction." Readings of the instruments were given, which have been reduced for comparison with the following Kingston Elements.

KINGSTON: Elements of Shock—

BAR. CORR. AND REDUCED.

	In.
24 hours before	30.014
16 " "	30.050
8 " "	30.047
* At time of shock	30.020
8 hours after	30.042
16 " "	30.064
24 " "	30.015
TOTAL MILES OF WIND.	
April 7th	196
" 8th	153
" 9th	115
TEMPERATURE OF THE AIR.	
April 7th	79.6
" 8th	77.8
" 9th	76.9
CLOUDS AND RAIN.	
	Cloud. Rain.
	per cent. in.
April 7th	7 0.00
" 8th	50 0.00
" 9th	27 0.00

* 3 p.m. taken.

We here notice the usual drop in the Barometer about the time of the shock, dividing two small Barometric waves, the usual decrement in the strength of the Wind, the usual fall in the Temperature, which is probably caused by the usual Clouding-over of the sky. In all respects therefore, the Shock of April 8th and the Weather were *sympathetic*, as all the preceding shocks have been since the commencement of the Kingston Meteorological Register.

CINCHONA PLANTATION:—

Bar. cor. and reduced.

	in
7 a.m. (8 hrs. before)	30.046
3 p.m. (time of shock)	30.046

Here there is no drop in the Barometer; but when it is remembered that the plantation is about 4,850 feet above the sea-level, there must be considerable uncertainty about the large reduction. For want of 11 p.m. readings we cannot compare the temperatures, but the following are concordant:—

	Wind.	Rain.	Weather.
April 7th.	E. light	0.00	Fine and sunny
" 8th.	Var. calm	0.00	(Unrecorded)
" 9th.	E. light	0.00	Dull.

ASTRONOMICAL NOTES.

THE GREAT COMET OF 1882.

Observations of this Comet were made at the Kempshot Observatory in April and May when its distance from both the Sun and the Earth had reduced it to a very faint nebulous spot of light. Under these circumstances extreme accuracy was impossible; and the observations were made by first bringing the Comet to the centre of the field of view and reading the circles, and then a star whose positions are given in the *Nautical Almanac*; the observations were then corrected for Refraction, Instrumental errors, and Aberration—Parallax being insensible. The last observation was made on May 6th 1883, two hundred and thirty one days after the Perihelion passage! and consequently these observations can be used as a test of the accuracy of the Elements of the orbit computed from observations made several months ago.

The Elements deduced by Professor Frisby are given in *Nature* vol. 27, p. 227, correcting a misprint in the Eccentricity according to a subsequent notice, and taking the period as 793.789 yr. instead of 793.689 as there given; from these Elements the places of the Comet have been computed for the times of the Kempshot observations.

Professor Kreutz has also computed Elements of the orbit: the period he found is 843 years; and positions are given in *Nature*, vol. 27, p. 541 to May 1st: the table of positions has been carefully extended so as to include the observations made on May 5th and 6th.

KEMPSHOT OBSERVATIONS.

No.	Date: G.M.T.	Right Ascension.			S. Declination.
	d.	hr.	m.	sec.	"
1	1883—April 26	6	8	49	7 3.5
2	" 27	6	9	25	6 58.4
3	May 5	6	14	25	6 23.1
4	" 6	6	15	1	6 19.2

	No.	Right Ascension.			S. Declination.
		hr.	m.	sec.	"
Places computed from Elements of Prof. Frisby	1	6	8	49	7 3.2
	2	6	9	24	6 58.5
	3	6	14	26	6 24.7
	4	6	15	1	6 21.0

	No.	Right Ascension.			S. Declination.
		hr.	m.	sec.	"
Places computed from Elements of Prof. Kreutz.	1	6	8	47	7 3.8
	2	6	9	22	6 59.1
	3	6	14	21	6 25.4
	4	6	14	59	6 21.7

The agreement between observation and computation is very remarkable; and we may be sure that the period of the Comet cannot be far from 794 years.

Four other Comets are known to have Elements similar to those of the Comet of 1882; we give them all in the following table:—

No.	Perihelion Passage	Long. of Perihelion.	Long. of Node.	Inclin.	Perihelion Distance.	Eccentricity.	Authority.
I	B.C. 370 (winter)	189°	300°	30° (above)	very small	1.00000	Hind.
II	A.D. 1668 Feb. 29	277°	357°	35°	0.0047	1.00000	Henderson.
III	1843 Feb. 27	278°	361°	35°	0.0055	0.99989	Hubbard.
IV	1890 Jan. 27	277°	368°	36°	0.0067	1.00000	Tebbutt.
V	1882 Sep. 17	276°	346°	1°	0.0078	0.99991	Frisby.

The direction of the motion of all these Comets is retrograde, or opposite to the motion of the Planets. With regard to the Longitude of the Perihelion and the Node of Comet (I), we must add about 31° on account of Precession in order to compare it with Comets (II), (IV), and (V); and similarly we must add 2° 47' to Perihelion and Node of Comet (II).

Assuming a real connection among all these Comets, it becomes highly probable that Comet (I) has re-appeared

at a late date, especially as that Comet is said to have separated into two parts. If therefore we divide the interval between (I) and (V) by 3 we obtain a period of 751 years, which agrees very closely with the period found by Prof. Frisby. In like manner we may find periods for the other Comets, and then the intermediate dates when they should have re-appeared. The following table gives the dates of their theoretical re-appearance; the historical notes were taken from *Chambers' Descriptive Astronomy*.

No.	YEAR, A.D.	HISTORICAL NOTES.
II.	310	None.
III.	368	"
IV.	381	"
V.	382	"
II.	989	[Comet. None which can apply to this
III.	1106	A splendid Comet appeared this year. It was first seen on Feb. 4, within $1\frac{1}{2}$ feet (!) of the Sun between the 3rd and 9th hours of the day. The Comet remained visible for 7 or 8 weeks and had a tail 63° long. In Sept. and Oct. a great Star appeared.—(Chinese Annals). On Jan. 5th a Comet was seen. (Chinese Annals).
IV.	1131	
V.	1132	

We have thus identified Comets (I.) and (III.) with the Comet of 1106; and, referring to a brief notice of the apparent path of the Comet of 1106, we find that it suits the orbit of (I.) and (III.) as closely as possible.

With regard to Comets (IV.) and (V.) and their identity with a part of Comet (I.), there is but little to be said at present. If they appeared in 1131 and 1132, there were 4 months between their perihelion passages: in 1880 and 1882 there were 32 months between them; and this leads us to suppose that they separated at their unrecorded appearance in 381 or 382, having then formed the *second* part of Comet (I.), the *first* part having been already identified with the Comets of 1106 and 1843.

This process of disintegration is very remarkable, and would be almost incredible if we had not had the experience of Biela's Comet, and if we had not seen the process going on to a certain extent in the Great Comet of 1882.

MAXWELL HALL,

Kempshot, May 16th, 1883.

Montego Bay P.O.



JAMAICA.

JUNE 23, 1883.

No. 27.

WEATHER REPORT

FOR THE MONTH OF MAY,

1883.

FROM THE JAMAICA GAZETTE.

June 21st, 1883.

WITH ADDITIONS AND CORRECTIONS.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1883.

METEOROLOGICAL RESULTS FOR MAY, 1883.

KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric pressure ...	30.003	29.945	30.012	29.987
Temperature of the air ...	79°.6	83°.9	76°.0	79°.8
Dew-point ...	70.6	73.1	71.2	71.6
Humidity ...	75	71	85	77
Maximum Temp. ...				87°.5
Minimum Temp. ...				72.7
Range of Temp. ...				14.8
Minimum Temp. on Grass ...				67.2
Direction of the Wind ...				S.E.
Velocity of Wind in Miles per hour ...				2.5
Percentage of Cloud ...				46

Total Rainfall—1.15 inches.

Average Weather:—Fair, with light showers.

The highest temperature was 90°.3 recorded on the 14th; the lowest was 68°.3 recorded on the 20th; the extreme range was therefore 22°.0. The lowest temperature on the grass was 64°.0 recorded on the 20th.

CINCHONA PLANTATION:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric Pressure ...	7 a.m. ...	...	...	25.259
" ...	3 p.m. ...	...	...	25.255
Temperature of the air ...	7 a.m. ...	...	...	62°.4
" ...	3 p.m. ...	...	...	64.0
Dew-point ...	7 a.m. ...	...	...	56.3
" ...	3 p.m. ...	...	...	61.7
Maximum Temperature ...				68.4
Minimum Temperature ...				58.1
Range of Temperature ...				10.3
Direction of the Wind ...				Var.
Velocity of Wind in Miles per hour ...				2.5

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°; that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range, elevation about 5,600 feet) the mean maximum and minimum temperatures were 72°.0 and 52°.5 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 91°.0 and 69°.0 respectively.

THE RAINFALL FOR MAY, 1883.

The average May Rainfall, given in the second columns for different stations, is taken from the article on Meteorology in the *Handbook of Jamaica*; and, as there explained, it applies to the May Rainfall during the ten years from 1870 to 1879 inclusive.

NORTH EASTERN DIVISION.

		MAY.	
		1883.	Average.
		<i>in.</i>	<i>in.</i>
Morant Point L. H.	St. Thomas	2.98	9.26
Hordley	...	5.97	...
Holland	...	7.05	...
Leith Hall	...	...	...
Potosi	...	...	...
Boston	Portland	2.78	...
Port Antonio	...	4.91	...
Spring Garden	...	...	...
Chepstow	...	...	...
Woodstock	...	7.51	...

NORTH-EASTERN DIVISION, continued.

		MAY.	
		1883.	Average.
		<i>in.</i>	<i>in.</i>
Cinchona Plantation	St. Andrew	6.01	9.72
New Haven Gap	...	8.27	...
Belle Vue	...	...	...
Newton	...	4.50	...
Tweedside	...	11.66	...
Stony Hill	...	9.64	...
Castleton Gardens	St. Mary	7.15	12.28
Dover	...	5.61	...
Annotto Bay	...	...	...
Water Valley	...	...	9.12
Quebec	...	4.64	...
Port Maria	...	6.94	...
New Ramble	...	5.29	8.81
Gayle	...	2.88	...
Llanrumny	...	6.30	...
Goshen	...	2.31	...
Rio Hoe	St. Ann	2.28	...
Unity Valley	...	6.45	11.15
Albion	...	5.32	8.62
Bradfield	...	2.91	9.50
Drax Hall	...	3.85	7.74
Seville	...	1.82	...
Richmond Estate	...	1.29	...
Llandovery	...	2.78	...
Mean		5.13	9.58

NORTHERN DIVISION.

		MAY.	
		1883.	Average.
		<i>in.</i>	<i>in.</i>
Lillyfield	St. Ann	6.68	...
Home Castle	...	1.75	...
Richmond Pen	...	5.84	...
Colchis Pen	Trelawny	6.00	...
Mahogany Hall	...	6.28	...
Hopewell	...	3.78	7.39
Brampton Bryan	...	...	7.27
Bryan Castle	...	...	6.74
Nightingale Grove	...	1.66	...
Braco	...	0.43	6.74
Arcadia	...	1.54	...
Harmony Hall	...	0.26	...
Lancaster	...	0.68	6.86
Vale Royal	...	1.94	8.09
Hyde Hall	...	1.08	...
Swanswick	...	2.86	...
Long Pond	...	2.04	...
Georgia	...	1.04	7.99
Steelfield	...	...	...
Etingdon	...	1.03	...
Oxford	...	...	...
Cambridge	...	...	...
Spring	...	0.40	...
Lottery	...	0.78	8.15
Pembroke	...	0.12	...
Falmouth	...	0.20	6.51
Holland	...	0.30	...
Golden Grove	...	3.15	...
Fontabelle	...	...	...
Green Park	...	0.00	...
Tilston	...	4.15	...
Orange Valley	...	0.12	6.70
Kent	...	0.30	...
Dundee	...	1.91	6.05
Gales Valley	...	8.00	8.16
Hampden	St. James	4.47	...
Greenwood	...	0.00	...
Lima	...	...	...
Content	...	...	8.93
Gullsbro'	...	5.30	...
Spring Vale	...	10.58	12.02
Latium	...	5.48	...

NORTHERN DIVISION *continued.*

		MAY.	
		1883.	Average.
		IN.	IN.
Success	St. James.	0.68	5.41
Cinnamon Hill	...	0.68	...
Rose Hall	...	0.94	...
Running Gut	...	1.00	6.10
Tryall	...	1.50	...
Irwin	...	1.54	8.93
Ironshore	...	1.07	...
Providence	...	...	...
Catherine Hall	...	1.25	...
Catherine Mount	...	1.04	8.43
Fairfield	...	1.03	...
Mean		2.29	7.86

WEST CENTRAL DIVISION.

		MAY.	
		1883.	Average.
		IN.	IN.
Linstead	St. Catherine	5.17	...
Worthy Park	...	2.98	...
Lloyds	...	...	...
Chapelton	Clarendon	...	8.29
Pennants	...	...	...
Whitney	...	...	...
Cave Valley	St. Ann	6.30	11.93
Hanbury	Manchester	...	...
Mandeville	...	...	12.76
Marshall's Pen	...	15.08	...
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	6.16	...
Appleton	...	5.65	...
Maroon Town	St. James	1.42	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	12.42	...
Mount Charles	...	10.69	...
Mount Edgcombe	Westmoreland	5.84	...
Windsor Forest	...	15.95	...
Kew Park	...	9.31	...
Chester Castle	Hanover	10.20	...
Copse	...	...	...
Burnt Ground	...	...	...
Haughton Grove	...	11.62	...
Kempshot	St. James	3.65	...
Bandon	...	6.66	...
Anchovy	...	2.48	...
Wiltshire	...	4.85	...
Round Hill	Hanover	3.80	...
Cacoon Castle	...	6.86	...
Sod Hall Pen	...	...	...
Golden Grove	...	12.95	...
Tryall	...	3.07	...
Carawina	Westmoreland	...	...
Sweet River	...	8.15	...
Paradise Pen	...	7.30	...
Roaring River	...	...	...
Fort William	...	15.44	...
Mackfield	...	12.96	...
Mesopotamia	...	14.72	...
Cornwall	...	12.06	...
Windsor (Sav.-la-Mar)	...	5.24	...
Fontabelle	...	10.53	...
Frome	...	10.23	...
Belle Isle	...	12.62	...
Grange Hill	...	...	...
Retreat	...	7.29	...
Point	...	...	...
Kew Estate	Hanover	6.45	...

WEST CENTRAL DIVISION, *continued.*

		MAY.	
		1883.	Average.
		IN.	IN.
Haughton Court	Hanover	4.85	...
Orange Cove	...	4.90	8.49
Prospect	...	11.15	...
Haughton Hall	...	10.65	...
Abingdon	...	...	...
Phoenix	...	...	...
Mean		8.36	10.37

SOUTHERN DIVISION.

		MAY.	
		1883.	Average.
		IN.	IN.
Albion Hospital	St. Thomas	1.00	...
The Abbey	...	3.73	...
Halberstadt	St. Andrew	2.85	...
Hope Plantation	...	4.08	5.85
Constant Spring	...	...	...
Cherry Garden	...	5.51	...
King's House	...	4.12	...
Monaltrie	...	2.94	4.92
Director of Roads' Office, Kingston	...	1.34	4.82
Palisadoes Plantation	...	0.72	...
Plumb Point L. H.	...	0.62	4.64
Spanish Town	St. Catherine	3.81	...
Windsor Park	...	5.26	...
Hog Hole Pen	...	4.35	...
Headworks, R. C. C.	...	4.79	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	4.25	...
Old Harbour	...	2.73	...
Springfield	...	3.39	...
Halse Hall	Clarendon	...	...
Experiment	...	...	...
The Bog	...	...	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	4.43	8.90
Farm Plantation	Manchester	4.23	...
Great Valley	...	2.62	...
Stones Hope	...	7.53	...
Pepper	St. Elizabeth	...	...
Long Hill	...	11.59	...
Gilnock Hall	...	14.51	...
Santa Cruz	...	9.91	...
Bloomsbury	...	10.50	...
Black River	...	5.36	6.95
Hodges	...	6.65	...
Font Hill	...	...	...
Mean		4.55	6.00

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		MAY.	
		1883.	Average.
		IN.	IN.
North Eastern Division		4.99	9.58
Northern	"	2.24	7.86
West Central	"	7.68 ?	10.37
Southern	"	3.13	6.00
The Island		4.51	8.45

The Rainfall for May was therefore only half the average: but it was unequally distributed. In the West Central Division running on into Westmoreland the rains were excessive and interfered with taking-off the sugar crops. In the Northern Division there was little or no rain. Mr. Shearer writes me from Vale Royal:—

"For the lower parts of Trelawny this has been the driest May on record. The few showers have been barely enough to keep the cane-fields from burning, to say nothing of giving all vegetation the annual Spring impetus." And generally, the failure of the May rains over the greater part of the Island has been severely felt. The principle of compensation has however already set in with heavy and general rains for the first part of June.

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.43 and 0.62 inches respectively.

The death-rate in Kingston was 43.3 per thousand against 39.1 per thousand in April; the only noticeable feature in the Registrar-General's Abstract is an unusual number of deaths from Heart-disease.

ASTRONOMICAL NOTES.

THE SUN-PILLAR AND THE ZODIACAL LIGHT.

At sunset on the 15th of May, the very unusual phenomenon called the Sun-pillar was seen at Kempshot. A few days later the packet arrived from England containing correspondence on its appearance on the 6th of April at several places in England and Wales.

In "Nature," vol. 27. p. 605, the following admirable description of its appearance is given by Major Gibney: "The sunset was brilliant and cloudless, but from the horizon to about 25° in height, immediately above the spot where the Sun had disappeared there appeared a ray of light of great beauty and extreme brilliancy; its centre, a delicate rose colour, graduating to the edges into the purest gold. This single ray was perpendicular, and appeared to be little, if at all affected, in its brilliancy by the approaching dusk of evening, but continued to exhibit itself with little-diminished brilliancy for nearly half an hour, finally disappearing with the twilight."

At Kempshot it appeared on May 15th, at 6 hr. 30 m. local mean time as a bright ray of light of a faint roseate hue, 2° in width and 30° in height above the horizon, vertical, but not passing through the sun. A rough sketch was made at the time, and the circles of the Equatorial telescope were afterwards employed to determine the azimuth of the point where the Pillar cut the horizon. This was 70° from the north towards the west; and as the Sun's azimuth was 69° at the same time, the Pillar cut the horizon 1° to the west of the Sun. The sketch also shewed that the Pillar was a little to the west of the Sun.

Now with regard to the nature of the phenomenon, it certainly was not the usual display of the Zodiacal Light. The Light is here seen to perfection: every fine night when there is no Moon-light, the Zodiacal Light may be seen following the Ecliptic from the one horizon to the other, with but little variation except perhaps as to the *gegensein*, or stronger illumination near the point in the heavens diametrically opposite to the Sun. And so clearly is it seen that some years ago I carefully measured its breadth at different distances from the Sun, and so formed the following table:—

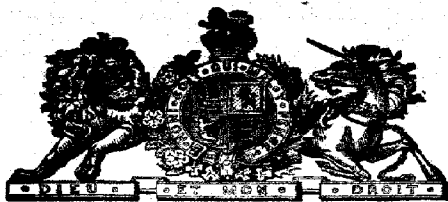
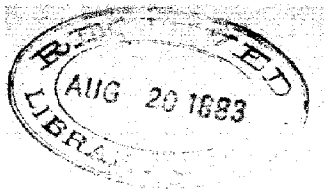
ANGULAR DIST. FROM SUN.	BREADTH OF Z. L.
30°	41°.4
40	38.7
50	36.1
60	33.4
70	30.7
80	28.1
90	25.5
100	22.9
110	20.3
120	17.8
130	15.3
140	13.0
150	10.8
160	8.9
170	7.6
180	7.0

From various considerations based upon the figure corresponding to these measures, I consider the Zodiacal Light a terrestrial phenomenon—rays of light are swept back from the tropical parts of the Earth by the Sun and tend to accumulate at the point in the heavens diametrically opposite to the Sun.

If there be any truth in this theory of the Zodiacal Light, the Sun-pillar may be a strong and comparatively local development of the same Light; this is the only explanation I can give; the explanation given by Mr. G. J. Symons, the well-known meteorologist, "that it is merely a portion of a halo passing through the Sun" (Nature, vol. 28. p. 7) will not apply to the Jamaica observation at all; the sky was far too pure and transparent at the time, and there was not the least trace of cirrus cloud.

MAXWELL HALL.

Kempshot, June 14th, 1883.
Montego Bay P.O.



JAMAICA.

JULY 26, 1883.

No. 28.

WEATHER REPORT

FOR THE MONTH OF JUNE,

1883.

FROM THE JAMAICA GAZETTE.

July 19th, 1883.

WITH ADDITIONS AND CORRECTIONS.

Published by Authority.

J A M A I C A :
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1883.

METEOROLOGICAL RESULTS FOR JUNE, 1883.

KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric pressure ...	30.036	29.974	30.051	30.020
Temperature of the air ...	80°.8	84°.8	77°.7	81°.1
Dew-point ...	71.0	73.5	71.7	72.1
Humidity ...	72	70	82	75
Maximum Temp. ...				88°.1
Minimum Temp. ...				74.4
Range of Temp. ...				13.7
Minimum Temp. on Grass ...				68.5
Direction of the Wind ...			S. E. by E.	
Velocity of Wind in Miles per hour ...				5.2
Percentage of Cloud ...				61

Total Rainfall—2.26 inches.

Average Weather:—Cloudy and squally to the 20th—afterwards fine.

The highest temperature was 90°.5 recorded on the 6th; the lowest was 70°.4 recorded on the 25th; the extreme range was therefore 20°.1. The lowest temperature on the grass was 62°.6 recorded on the 26th.

CINCHONA PLANTATION:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric Pressure ...	25.296	25.275	25.275	25.275
Temperature of the air ...	63°.0	65.2	65.2	64.4
Dew-point ...	58.2	63.5	63.5	60.4
Maximum Temperature ...				70.1
Minimum Temperature ...				59.2
Range of Temperature ...				10.9
Direction of the Wind ...				
Velocity of Wind in Miles per hour ...				5.0

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range, elevation about 5,800 feet) the mean maximum and minimum temperatures were 71°.5 and 55°.5 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 90°.3 and 69°.9 respectively.

The death-rate in Kingston was 30.8 per thousand against 43.3 per thousand in May; the Meteorological conditions were the same, except that there was a much higher Wind-velocity in June than in May. While an increase in the strength of the Wind is favourable to health generally, it often increases the subsequent number of deaths from Phthisis.

THE RAINFALL FOR JUNE, 1883.

The average June Rainfall, given in the second columns for different stations, is taken from the article on Meteorology in the *Handbook of Jamaica*; and, as there explained, it applies to the June Rainfall during the ten years from 1870 to 1879 inclusive.

NORTH-EASTERN DIVISION.

	JUNE.
	1883. | Average.
	<i>in.</i> | <i>in.</i>
Morant Point L. H.	6.37
St. Thomas	6.24
Hordley	12.83
Holland	8.57
Leith Hall	...
Potosi	...

NORTH-EASTERN DIVISION, continued.

JUNE.

	1883. | Average.
	<i>in.</i> | <i>in.</i>
Boston	13.65
Port Antonio	16.54
Spring Garden	...
Ohpeastow	...
Woodstock	7.29
Cinchona Plantation	4.93
St. Andrew	6.38
New Haven Gap	3.55
Belle Vue	...
Newton	3.72
Tweedside	...
Stony Hill	8.06
Castleton Gardens	...
St. Mary	8.24
Dover	6.92
Annotto Bay	...
Water Valley	4.88
Quebec	4.53
Port Maria	6.02
New Ramble	7.00
Gayle	4.23
Llanrumny	10.00
Goshen	5.40
Rio Hoe	...
St. Ann	...
Unity Valley	6.82
Albion	8.70
Bradfield	5.58
Drax Hall	4.86
Seville	5.68
Richmond Estate	3.26
Islandoverly	3.88
Mean	2.39
	2.06
	6.96
	5.81

NORTHERN DIVISION.

JUNE.

	1883. | Average.
	<i>in.</i> | <i>in.</i>
Lillyfield	3.70
St. Ann	...
Home Castle	0.94
Richmond Pen	5.91
Colchis Pen	4.80
Trelawny	...
Mahogany Hall	...
Hopewell	3.34
Brampton Bryan	3.62
Bryan Castle	2.65
Nightingale Grove	2.18
Braco	1.41
Arcadia	2.55
Harmony Hall	2.37
Lancaster	1.85
Vale Royal	...
Hyde Hall	2.17
Swanswick	2.30
Long Pond	1.41
Georgia	3.39
Steelfield	2.20
Etingdon	1.98
Oxford	1.07
Cambridge	...
Spring	0.48
Lottery	1.10
Pembroke	3.39
Falmouth	3.11
Holland	0.73
Golden Grove	2.01
Fontabella	3.44
Green Park	1.34
Tilston	...
Orange Valley	2.50
Kent	1.00
Dundee	1.87
Gales Valley	1.88
	1.60
	2.40
	5.66

NORTHERN DIVISION *continued.*

		JUNE	
		1883.	Average.
		IN.	IN.
Hampden	St. James	2.20	...
Greenwood	...	3.50	...
Lima	...	...	...
Content	...	...	3.73
Guilbro'	...	2.20	...
Spring Vale	...	15.62	9.21
Latium	...	5.35	...
Success	...	0.25	2.05
Cinnamon Hill	...	0.20	...
Rose Hall	...	0.22	...
Running Gut	...	0.53	2.32
Tryall	...	...	...
Irwin	...	...	6.26
Ironshore	...	1.71	...
Providence	...	...	...
Catherine Hall	...	7.16	...
Catherine Mount	...	7.39	6.55
Fairfield	...	8.22	...
Mean		2.88	3.96

WEST CENTRAL DIVISION.

		JUNE.	
		1883.	Average.
		IN.	IN.
Linstead	St. Catherine	10.37	...
Worthy Park	...	3.94	...
Lloyds	...	...	...
Chapelton	Clarendon	...	4.92
Pennants	...	...	...
Whitney	...	7.19	...
Cave Valley	St. Ann	2.93	5.76
Hanbury	Manchester	...	...
Mandeville	...	...	6.46
Marshall's Pen	...	4.79	...
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	2.94	...
Appleton	...	1.83	...
Maroon Town	St. James	14.87	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	8.51	...
Mount Charles	...	...	...
Mount Edgecombe	Westmoreland	5.67	...
Windsor Forest	...	...	...
Kew Park	...	8.39	...
Chester Castle	Hanover	6.64	...
Copae	...	6.43	...
Burnt Ground	...	15.80	...
Haughton Grove	...	7.03	...
Kempshot	St. James	11.23	...
Bandon	...	6.35	...
Anchovy	...	6.32	...
Wiltshire	...	7.48	...
Round Hill	Hanover	5.85	...
Cacoon Castle	...	6.91	...
Sod Hall Pen	...	15.85	...
Golden Grove	...	7.39	...
Tryall	...	3.82	...
Carawina	Westmoreland	7.61	...
Sweet River	...	6.19	...
Paradise Pen	...	7.30	...
Roaring River	...	...	...
Fort William	...	6.97	...
Mackfield	...	9.31	...
Mesopotamia	...	...	...
Cornwall	...	7.42	...
Windsor (Sav.-la-Mar)	...	5.51	...

WEST CENTRAL DIVISION, *continued.*

		JUNE.	
		1883.	Average.
		IN.	IN.
Fontabelle	...	9.19	...
Frome	...	11.31	...
Belle Isle	...	8.08	...
Grange Hill	...	...	...
Retreat	...	7.10	...
Point	...	...	...
Kew Estate	Hanover	6.02	...
Haughton Court	...	5.44	...
Orange Cove	...	4.72	7.72
Prospect	...	...	...
Haughton Hall	...	10.18	...
Abingdon	...	6.69	...
Phoenix	...	...	...
Mean		7.44	6.22

SOUTHERN DIVISION.

		JUNE.	
		1883.	Average.
		IN.	IN.
Albion Hospital	St. Thomas	7.38	...
The Abbey	...	10.85	...
Halberstadt	St. Andrew	6.72	...
Hope Plantation	...	3.92	4.17
Constant Spring	...	...	...
Cherry Garden	...	4.84	...
King's House	...	2.60	...
Monaltrie	...	3.30	3.53
Director of Roads' Office, Kingston	...	2.32	3.32
Palisades Plantation	...	2.02	...
Plumb Point L. H.	...	2.29	3.79
Spanish Town	St. Catherine	1.64	...
Windsor Park	...	2.12	...
Hog Hole Pen	...	2.36	...
Headworks, R. C. C.	...	4.50	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	...	...
Old Harbour	...	2.82	...
Springfield	...	...	...
Halse Hall	Clarendon	...	...
Experiment	...	4.39	...
The Bog	...	5.27	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	2.26	5.67
Farm Plantation	Manchester	3.10	...
Great Valley	...	...	...
Stones Hope	...	4.74	...
Pepper	St. Elizabeth	...	...
Long Hill	...	0.68	...
Gilnock Hall	...	0.19	...
Santa Cruz	...	1.14	...
Bloomsbury	...	4.96	...
Black River	...	3.47	2.68
Hodges	...	3.67	...
Font Hill	...	...	...
Mean		3.60	3.69

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		JUNE.	
		1883.	Average.
		IN.	IN.
North Eastern Division		6.16	5.81
Northern	"	3.00	3.96
West Central	"	4.49 ?	6.22
Southern	"	2.93	3.69
The Island		4.14	4.92

The Rainfall for June was therefore a little below the average: but it was most unequally distributed. At the extreme North-East of the Island about 15 inches fell, and Mr. Jenoure writes me from Boston, "the Pimento crop is nearly ruined by the rains and strong winds which still continue to blow." In the Northern Division the Rainfall was very small, except indeed at Spring Vale; Mr. Shearer writes me from Vale Royal, "in this District (Vale Royal, Arcadia, Lottery, Braco, Lancaster, and Georgia) the Rainfall for June is much under the average, and this coming after the failure of our May seasons has told seriously on the young cane-fields, pastures, and ponds. Several estates have had to send away every head of their stock for want of grass and water." Mr. Ogilvy also writes me from Spring to the same effect and remarks that "on most estates in this Parish the Rainfall in June has not made up in any way for the deficiency of the usual May rains." In the West Central Division the Rainfall was for the most part above the average; there were hailstorms at Maroon Town and Kempshot on the 17th. The Hon. William Vickers writes me from Frome, "there have been eight or ten dry days which have been highly appreciated; a month's moderate weather now would do a great deal of good." In the Southern Division the Rainfall varied from 11 inches at the Abbey (east of Kingston) to one-fifth of an inch at Gilmock Hall in St. Elizabeth.

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 1.62 and 2.29 inches respectively.

ASTRONOMICAL NOTES.

OCCULTATION OF SPICA, JUNE 15TH.

Attention was previously called to this Occultation, and the time of disappearance was given as June 14 d. 13hr. 8 min. 59 sec. Kempshot mean time, which was considered sufficiently correct for purposes of observation. A subsequent recomputation after the Occultation gave 13hr. 9 min. 5.0 sec. as the *Nautical Almanac* time; but the correction to the Moon's tabular Right Ascension as given in the *Nautical Almanac* was minus 0.14 sec. according to the observed times of transit of the Moon across the Kempshot meridian the evening before and the evening after the Occultation.

This correction implies a correction of *plus* 5.4 sec. to the computed time of Occultation; so that the computed time when corrected for the tabular error in RA becomes 13 hr. 9 min. 10.4 sec.

Now the Occultation was observed at Kempshot, and Spica was seen to disappear instantaneously at the time 13 hr. 9 min. 10.6 sec., which is about 4 sec. sooner than it should have been in order to satisfy Mr. Neison's discussion on the *telescopic* and *occultation* semidiameters of the Moon (*Monthly Notices*, Vol. 34, p. 358); but perhaps these 4 seconds may be recovered by taking a truer value of the Moon's tabular error in RA as observed at the principal Observatories, and by taking into consideration the tabular error in Declination, whose effect however will be very small.

SUN-SPOTS AND SOLAR RADIATION.

An account was given in the *Handbook of Jamaica*, 1881, p. 76, of the connection between the number of spots visible at any time on the surface of the Sun, the frequency of Auroræ, and the diurnal variation of the Magnetic-needle; and also of a possible connection between the number of spots and other branches of terrestrial physics.

It therefore becomes important to measure, if possible, the heat radiated out by the Sun to the Earth; but there are great difficulties attending this measurement.

From a few observations in June and July taken at the Kempshot Observatory by certain special appliances of a decidedly complex nature, it seems however quite possible to measure variations of the Solar Radiation, although it will be very difficult to express the measures

in Thermal units; and by comparing the observations already made with the number of the Sun-spots visible at the times of observation, it is found that the intensity of the Radiation varies with Dr. Wolf's Relative-number for Sun-spot activity.

In the following Table the first and second columns give the local time of observation; the third column gives the number of groups of spots (regarding an isolated spot as a group), the fourth column gives the whole number of spots easily and distinctly visible in the Kempshot equatoreal of four inches aperture (using a first surface prism and a power of 55), and the fifth column gives Dr. Wolf's Relative-number, which is found by multiplying the number of groups by ten and by adding the number of spots to the product (*Memoirs R.A.S.*, Vol. 43, p. 204).

In the sixth column the Solar Radiation is also expressed in relative numbers so that they can only be used for purposes of comparison; these numbers give the carefully reduced results of direct observation, employing Lord Rosse's Table of the Extinction of Heat by the Atmosphere (*Phil. Trans. Royal Society*, 1873) for the reduction to the Zenith; and the last column gives the results of computation, assuming that the Radiation varies with the Relative-number.

There is only one case of marked difference between these columns; the observation taken June 22 makes the radiation 1° greater than the assumption requires; but this difference is probably due to the unusually clear state of the sky that day—so clear that an observation was made as soon as possible after sun-rise in order to test Lord Rosse's Table. And consequently the remaining small differences between the two columns may be chiefly due to differences in the diathermancy of the atmosphere. The observations perhaps shew a very slight connection with the humidity of the air near the ground; but a long series of observations must be made in order to measure the effect, as well as to assure us of the constancy of the connection we have already found.

KEMPSHOT: JUNE, 1883.

Mean Time.		Groups of Sun-spots.	Number of Sun-spots.	Relative Number.	Solar Radiation.	
Day.	Hour.				Observed.	Computed.
1	19	3	33	63		
3	19	6	61	121		
5	19	6	52	112		
6	20	7	61	131		
7	20	6	53	113		
8	19	6	41	101		
9	19	6	21	81		
10	20	5	19	69		
11	19	3	17	47		
13	5	3	29	59		
15	19	3	36	66		
15	5	3	25	55		
16	5	3	13	43		
...	22	7	27	97	9.93	9.89
18	21	6	51	111	10.33	10.06
20	19	4	64	104	...	...
21	19	4	65	105	...	...
22	21	4	51	91	10.88	9.82
23	21	4	48	88	9.24	9.78
24	22	5	62	102	9.73	9.95
25	21	5	70	120	10.21	10.16
26	20	6	79	139	...	...
27	20	6	78	138	10.12	10.38
28	21	4	57	97	...	...
29	20	4	61	101	...	...
Means ...		4.8	46	94	...	...

July 1 and 5 the Relative-numbers were 77 and 48, the observed Radiations 9.25 and 9.06, and the computed Radiations 9.65 and 9.30.

STORM-WARNINGS.

During the coming Hurricane season, August, September, October, and the first part of November, it is proposed to warn Kingston and the Island generally of all

Storms and Barometric depressions which may pass within range of Jamaica, according to the system adopted last year. A daily telegram will be passed round the Island stating the weather in Kingston and any further information there may be; and a daily telegram will be sent from the Kempshot Observatory to Kingston for the sake of the comparison of the readings.

In case of approaching danger, special notices will be posted in the Commercial Exchange, at Mr. John McDonald's store in Harbour Street, and in the Colonial Secretary's Office; all these Notices will be signed by Mr. Robert Johnstone who has charge of the instruments in Kingston; and the Notice will also be telegraphed round the Island. The danger flags of the U. S. Signal Service will be hoisted at the Commercial Exchange and the Colonial Secretary's Office; these flags are red with black squares in their centres.

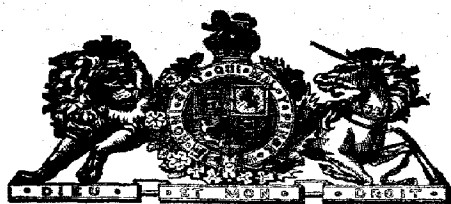
With reference to the disestablishment of the West

Indian Weather Service by the United States Congress, while we can no longer depend upon any official warnings from the Windward Islands (sent back from Key West) it is to be remarked that last year Jamaica received no information from windward but forwarded five warnings of passing depressions to the U. S. Signal Service some of which developed into great and destructive storms.

According to the *Tri-Weekly Gleaner* of May 12th this year, "it is computed by the U. S. Signal Service that the warnings of the six observers in the West Indies during the past year saved over thirty millions of dollars worth of property;" so that it is quite possible that the West Indian out-posts will be established again in the course of a few years or so.

MAXWELL HALL.

Kempshot, July 12th, 1883.
Montego Bay P.O.



JAMAICA.

AUGUST 31, 1883.

No. 29.

WEATHER REPORT

FOR THE MONTH OF JULY,

1883.

FROM THE JAMAICA GAZETTE.

August 30th, 1883.

WITH ADDITIONS AND CORRECTIONS.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1883.

METEOROLOGICAL RESULTS FOR JULY, 1883.

KINGSTON :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric pressure ...	30.071	30.000	30.087	30.053
Temperature of the air ...	80°·5	86°·3	77°·8	81°·5
Dew-point ...	70·7	72·4	71·4	71·5
Humidity ...	72	64	81	72
Maximum Temp. ...	...	...	...	88°·6
Minimum Temp. ...	...	...	...	73°·8
Range of Temp. ...	...	...	...	14°·8
Minimum Temp. on Grass ...	...	...	...	66°·8
Direction of the Wind ...	...	S. E.	by E	...
Velocity of Wind in Miles per hour ...	...	...	...	6·1
Percentage of Cloud ...	...	...	...	60

Total Rainfall—1.25 inches.

Average Weather :—Fair.

The highest temperature was 93°·3 recorded on the 28th; the lowest was 70°·6 recorded on the 17th; the extreme range was therefore 22°·7. The lowest temperature on the grass was 62°·6 recorded on the 17th.

CINCHONA PLANTATION :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric Pressure ...	7 a.m. ...	3 p.m. ...	...	25.320
" ...	7 a.m. ...	3 p.m. ...	...	25.296
Temperature of the air ...	7 a.m. ...	3 p.m. ...	...	63°·0
" ...	7 a.m. ...	3 p.m. ...	...	67·4
Dew-point ...	7 a.m. ...	3 p.m. ...	...	59·7
" ...	7 a.m. ...	3 p.m. ...	...	63·8
Maximum Temperature ...	...	...	...	71·4
Minimum Temperature ...	...	...	...	59·6
Range of Temperature ...	...	...	...	11·8
Direction of the Wind ...	...	...	...	Var.
Velocity of Wind in Miles per hour ...	...	...	...	7·2

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range, elevation about 5,600 feet) the mean maximum and minimum temperatures were 74°·0 and 55°·5 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 93°·1 and 69°·6 respectively.

THE HEALTH OF KINGSTON was above the average during July: the death-rate was only 28.0 per thousand against 30.8 per thousand in June; there were a few more deaths from Phthisis than usual as apprehended in the last report, and this increase will probably be maintained for August.

BLUE MOUNTAIN PEAK.—The minimum temperature on the Blue Mountain Peak was as low as 42°·5 early in the morning of the 17th July according to information given me by Mr. R. Johnstone; but the readings of the other instruments at 11 p.m. on the 16th and 7 a.m. on the 17th require careful consideration and will be referred to again. The minimum temperature at Kingston was 70°·6 that morning, but this, as already stated, was the lowest temperature for the month.

THE RAINFALL FOR JULY, 1883.

The average July Rainfall, given in the second column for different stations, is taken from the article on Meteorology in the *Handbook of Jamaica*; and, as there explained, it applies to the July Rainfall during the ten years from 1870 to 1879 inclusive.

NORTH-EASTERN DIVISION.

JULY.

	1883.	Average.
	<i>In.</i>	<i>In.</i>
Morant Point L. H.	...	3.48
Hordley	6.40	...
Holland	3.62	...
Potosi	...	...
Boston	...	...
Portland	...	...
Port Antonio	8.40	...
Spring Garden	7.18	...
Chepstow	7.61	...
Woodstock	11.03	...
Cinchona Plantation	1.83	4.78
St. Andrew	...	...
New Haven Gap	2.77	...
Belle Vue	...	...
Newton	0.72	...
Tweedside	0.75	...
Stony Hill	0.91	...
Castleton Gardens	...	7.32
St. Mary	...	...
Dover	6.78	...
Annotto Bay	5.57	...
Water Valley	3.85	4.43
Quebec	...	...
Port Maria	4.80	...
New Ramble	3.51	3.65
Gayle	3.00	...
Llanrumny	2.80	...
Goshen	0.47	...
Rio Hce	1.61	...
St. Ann	0.96	6.91
Unity Valley	...	...
Albion	2.23	4.13
Bradfield	...	4.28
Drax Hall	2.35	2.91
Seville	1.00	...
Richmond Estate	2.07	...
Llandoverly	1.93	...
Mean	3.65	4.65

NORTHERN DIVISION.

JULY.

	1883.	Average.
	<i>In.</i>	<i>In.</i>
Lillyfield	2.10	...
St. Ann	...	...
Home Castle	1.20	...
Richmond Pen	0.91	...
Colchis Pen	0.10	...
Trelawny	...	...
Mahogany Hall	...	...
Hopewell	1.92	4.16
Brampton Bryan	...	3.37
Bryan Castle	...	2.46
Nightingale Grove	1.18	...
Braco	0.24	2.41
Arcadia	0.25	...
Harmony Hall	0.49	...
Lancaster	0.25	2.66
Vale Royal	0.73	3.48
Hyde Hall	1.14	...
Swanswick	1.98	...
Long Pond	1.34	...
Georgia	...	2.92
Steelfield	...	...
Etingdon	0.65	...
Oxford	...	...
Cambridge	...	...
Spring	0.33	...
Lottery	0.39	2.40
Pembroke	1.76	...
Falmouth	...	1.49
Holland	0.17	...
Golden Grove	2.50	...
Fontabelle	...	...
Green Park	0.45	...
Tilston	2.53	...

NORTHERN DIVISION *continued.*

		JULY	
		1883. | Average.	
		In.	In.
Orange Valley	Trelawny	0.83	2.84
Kent	...	0.83	...
Dundee	...	2.09	3.91
Gales Valley	...	3.17	5.30
Hampden	St. James	3.48	...
Greenwood	...	0.81	...
Lima	...	...	...
Content	...	...	2.54
Gaillsbro'	...	1.90	...
Spring Vale	...	4.97	8.29
Latum	...	2.97	...
Success	...	0.38	1.51
Cinnamon Hill	...	0.09	...
Rose Hall	...	0.25	...
Running Gut	...	0.25	1.11
Tryall	...	0.10	...
Irwin	...	0.73	3.07
Ironshore	...	0.67	...
Providence	...	...	...
Catherine Hall	...	3.17	...
Catherine Mount	...	2.17	4.89
Fairfield	...	2.18	...
Mean		1.81	3.46

WEST CENTRAL DIVISION, *continued.*

		JULY.	
		1883. | Average.	
		In.	In.
Carawina	Westmoreland	...	...
Sweet River	...	8.75	...
Paradise Pen	...	10.15	...
Roaring River	...	...	...
Fort William	...	11.01	...
Mackfield	...	9.96	...
Mesopotamia	...	6.34	...
Cornwall	...	8.83	...
Windsor (Sav.-la-Mar)	...	9.13	...
Fontabelle	...	8.59	...
Frome	...	8.51	...
Belle Isle	...	8.73	...
Grange Hill	...	...	...
Retreat	...	5.33	...
Point	...	...	...
Kew Estate	...	4.14	...
Houghton Court	Hanover	4.39	...
Orange Cove	...	4.15	6.62
Prospect	...	...	...
Houghton Hall	...	12.92	...
Abingdon	...	11.05	...
Phoenix	...	...	...
Mean		7.14	5.56

WEST CENTRAL DIVISION.

		JULY.	
		1883. | Average.	
		In.	In.
Linstead	St. Catherine	3.87	...
Worthy Park	...	0.95	...
Lloyds	...	...	...
Chapelton	Clarendon	1.22	4.37
Pennants	...	...	...
Whitney	...	0.93	...
Cave Valley	St. Ann	0.75	5.15
Hanbury	Manchester	...	...
Mandeville	...	...	6.08
Marshall's Pen	...	1.32	...
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	1.98	...
Appleton	...	1.72	...
Maroon Town	St. James	6.47	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	5.89	...
Mount Charles	...	...	...
Mount Edgecombe	Westmoreland	5.57	...
Windsor Forest	...	10.14	...
Kew Park	...	15.07	...
Hazelymph	St. James	13.14	...
Chester Castle	Hanover	10.46	...
Copae	...	7.80	...
Burnt Ground	...	12.33	...
Houghton Grove	...	8.96	...
Kempshot	St. James	8.07	...
Bandon	...	5.65	...
Anchovy	...	9.36	...
Wiltshire	...	8.95	...
Round Hill	Hanover	3.30	...
Cacoen Castle	...	6.65	...
Sod Hall Pen	...	12.75	...
Golden Grove	...	8.27	...
Tryall	...	3.60	...

SOUTHERN DIVISION.

		JULY.	
		1883. | Average.	
		In.	In.
Albion Hospital	St. Thomas	0.30	...
The Abbey	...	3.20	...
Halberstadt	St. Andrew	1.79	...
Hope Plantation	...	0.54	3.35
Constant Spring	...	...	...
Cherry Garden	...	0.84	...
King's House	...	0.94	...
Monaltrie	...	0.67	2.73
Dir. Public Works Office, Kingston	...	0.99	2.03
Palisades Plantation	...	0.67	...
Plumb Point L. H.	...	0.64	2.17
Ewing's Caymanas	St. Catherine	1.12	...
Spanish Town	...	0.71	...
Windsor Park	...	...	...
Hog Hole Pen	...	0.34	...
Headworks, R. C. C.	...	0.26	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	0.72	...
Old Harbour	...	0.28	...
Springfield	...	0.33	...
Experiment	Clarendon	0.93	...
The Bog	...	...	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	1.27	3.24
Farm Plantation	Manchester	1.00	...
Great Valley	...	0.82	...
Stones Hope	...	0.74	...
Pepper	St. Elizabeth	...	...
Long Hill	...	1.42	...
Gilnock Hall	...	1.04	...
Santa Cruz	...	2.18	...
Bloomsbury	...	4.39	...
Black River	...	2.06	5.16
Hodges	...	1.27	...
Font Hill	...	...	...
Mean		1.12	3.24

COMPARATIVE TABLE.
(Based upon the "Average" Stations only.)

	JULY.	
	1883.	Average.
	In.	In.
North Eastern Division	2.46	4.65
Northern "	1.89	3.46
West Central "	1.86	5.56
Southern "	1.03	3.24
The Island	1.68	4.23

The Rainfall for July was therefore less than one-half the average, and the continued drought was severely felt in most parts of the Island; but there were rains along the sea-shore in the North Eastern Division, and there were 10 or 12 inches of rain along a belt in the West Central Division reaching from Maroon Town to Green Island.

On the 18th July there were hailstorms at Chester Castle and Haughton Grove; the hailstones were as large as nutmegs.

On the 4th July there was a heavy shower at Kempshot between 2 and 3 p.m., five inches and eight parts falling in one hour.

On the afternoon of the 26th a well-formed waterspout at sea was seen by Mr. Dod from Abingdon; it lasted some time, and as usual was accompanied by heavy rains.

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.46 and 0.64 inches respectively.

ASTRONOMICAL NOTES.

SUN-SPOTS AND SOLAR RADIATION.

The observations of the Solar Radiation commenced in June were continued during July; the weather however was very unfavourable so that but few were made.

KEMPSHOT: JULY, 1883.

Mean Time.		Groups of Sun-spots.	Number of Sun-spots.	Relative Number.	Solar Radiation.	
Day.	Hour.				Observed.	Computed.
1	23	3	47	77	9.25	9.65
3	20	3	22	52	...	...
5	30	2	23	48	9.06	9.30
9	20	3	32	62	...	...
10	22	4	34	74	9.38	9.61
11	20	6	54	114	...	...
12	22	6	55	115	10.14	10.10
13	20	6	61	121	...	...
14	20	10	61	161	...	...
15	21	9	86	176	11.00	10.84
16	20	9	91	181	...	...
17	21	10	111	211	...	...
18	22	9	100	190	10.19	11.00
21	22	8	105	185	...	...
25	23	6	73	133	9.91	10.32
28	23	3	25	55	...	...
29	20	5	32	82	...	...
Means ...		6.0	60	120	...	...

This table is similar to the table for June, and the variation of the Radiation with the Relative-number is fully confirmed.

The fourteen results obtained in June and July have been submitted to a rigorous examination, and it is found that Dr. Wolf's Relative-number does not fully represent the Sun-spot action. This Relative-number is found, as previously stated, by multiplying the number of groups by ten and by adding the number of spots to the product. I do not know why Dr. Wolf adopted this combination; it is certainly remarkably near the combination we require for the Radiation, but it gives too great

a weight to the number of the spots; and the observations already made indicate that to ten times the number of groups we must add only one-third the number of spots to obtain the proper Combination-number, as we may term it, in order to distinguish it from Dr. Wolf's Relative-number.

The Solar Radiation computed above was based upon rough conclusions obtained from the first few observations; the same rigorous examination of our fourteen results gives us the following rule:—To compute the Radiation, multiply the Combination-number by 0.016, and add the product to 8° 828

Consequently when there are no Sun-spots, as continually occurs about the time of a Sun-spot Minimum, the Solar Radiation is about 8° 83; but when about the time of a Sun-spot Maximum the Combination-number is 100, the Solar Radiation is about 1° 33; so that the variation from Minimum to Maximum is about one-sixth of the Radiation at the Minimum.

This result is very important; we now understand why Rainfall, Cyclones and other terrestrial phenomena depending on Solar Radiation should apparently be affected by Sun-spots. Professor Poëy has shown that the number of the West Indian Cyclones increases with the Sun-spots; but as far as I am aware the registration of the Rainfall has not been continued long enough in the West Indies to enable us to draw a similar conclusion. The Jamaica Rainfall in 1870 (Sun-spot Maximum) was unusually large, and again in 1879; and 1875 was dry, though the Sun-spot Minimum was delayed to 1878; but the principle of compensation seems the stronger of the two—the years 1871 and 1872, for instance, were both dry, so that the average Rainfall for the three years 1870, 1871 and 1872 was nearly the average obtained from ten years.

The registers of the Rainfall in Jamaica which I have been collecting for some years past are now nearly ready for publication, and this subject will then be reconsidered.

In conclusion, as it will not be possible to improve our theory for a year or two when many observations may be combined, we give in the following table the Combination-numbers and the new computations for the observations already made.

No.	Combination Number.	Solar Radiation.		Difference. O — C
		Observed.	Computed.	
1	79	9.93	10.01	— 0.08
2	77	10.33	9.98	+ 0.35
3	57	10.88	9.68	+ 1.20
4	53	9.24	9.67	— 0.43
5	67	9.73	9.83	— 0.10
6	73	10.21	9.92	+ 0.29
7	86	10.12	10.12	0.00
8	46	9.25	9.52	— 0.27
9	29	9.06	9.26	— 0.20
10	51	9.38	9.59	— 0.21
11	78	10.14	10.00	+ 0.14
12	119	11.00	10.61	+ 0.39
13	123	10.19	10.67	— 0.48
14	84	9.91	10.09	— 0.18

The average difference between observation and theory is 0° 3 for each observation, and this difference is chiefly due to variation in the diathermancy of the atmosphere.

MAXWELL HALL.

Kempshot, August 16th, 1883.

Montego Bay P.O.



JAMAICA.

SEPTEMBER 22, 1883.

No. 30.

WEATHER REPORT

FOR THE MONTH OF AUGUST,

1883.

FROM THE JAMAICA GAZETTE.

September 20th, 1883.

WITH ADDITIONS AND CORRECTIONS.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1883.

METEOROLOGICAL RESULTS FOR AUGUST, 1883.

NORTH-EASTERN DIVISION.

KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric pressure ...	30.025	29.960	30.040	30.008
Temperature of the air ...	79°.1	85°.9	76°.7	80°.6
Dew-point ...	72.9	75.8	73.6	74.1
Humidity ...	81	73	90	81
Maximum Temp. ...	...	...	...	88°.5
Minimum Temp. ...	...	...	...	73°.6
Range of Temp. ...	...	...	...	14°.9
Minimum Temp. on Grass ...	...	...	...	66°.9
Direction of the Wind ...	...	...	...	S. E.
Velocity of Wind in Miles per hour ...	...	...	...	4.3
Percentage of Cloud ...	...	...	...	41

Total Rainfall—6.62 inches.

Average Weather :—Fair, with afternoon showers.

The highest temperature was 90°.8 recorded on the 15th; the lowest was 70°.7, recorded on the 11th; the extreme range was therefore 20°.1. The lowest temperature on the grass was 63°.2 recorded on the 11th.

CINCHONA PLANTATION:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric Pressure	7 a.m. ...	3 p.m. ...	11 p.m. ...	25.291
“	7 a.m. ...	3 p.m. ...	11 p.m. ...	25.269
Temperature of the air	7 a.m. ...	3 p.m. ...	11 p.m. ...	64°.7
“	7 a.m. ...	3 p.m. ...	11 p.m. ...	67.3
Dew-point	7 a.m. ...	3 p.m. ...	11 p.m. ...	59.8
“	7 a.m. ...	3 p.m. ...	11 p.m. ...	64.4
Maximum Temperature	...	...	...	72.0
Minimum Temperature	...	...	...	60.6
Range of Temperature	...	...	...	11.4
Direction of the Wind	...	...	...	Var.
Velocity of Wind in Miles per hour ...	...	...	...	3.4

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 “

At New Haven Gap (in the Blue Mountain Range, elevation about 5,600 feet) the mean maximum and minimum temperatures were 74°.5 and 54°.3 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 91°.7 and 69°.3 respectively.

THE HEALTH OF KINGSTON was above the average during August: the death-rate was only 24.2 per thousand against 28.0 per thousand in July.

There were 14 deaths from different forms of Lung-disease, as anticipated in the Report for July; and there were an unusual number of deaths from Stomach and Liver-diseases. There will probably be as many if not more deaths from Lung-disease during the present month of September, in accordance with previous notes on these subjects.

THE RAINFALL FOR AUGUST, 1883.

The average August Rainfall, given in the second columns for different stations, is taken from the article on Meteorology in the *Handbook of Jamaica*; and, as there explained, it applies to the August Rainfall during the ten years from 1870 to 1879 inclusive.

AUGUST.

	1883.	Average.
	In.	In.
Morant Point L. H.	1.87	5.46
Hordley	5.41	...
Holland	...	...
Leith Hall	1.55	...
Potosi	7.47	...
Boston	...	...
Port Antonio	4.94	...
Spring Garden	...	...
Chepstow	...	...
Woodstock	3.03	...
Cinchona Plantation	2.66	8.18
New Haven Gap	2.78	...
Newton	2.17	...
Tweedside	10.05	...
Stony Hill	8.04	...
Castleton Gardens	...	10.48
Dover	3.40	...
Annotto Bay	5.87	...
Water Valley	...	4.24
Quebec	...	...
Port Maria	3.77	...
New Ramble	...	5.69
Gayle	2.28	...
Llanrumny	3.20	...
Goshen	1.49	...
Rio Hoo	1.38	...
St. Ann	...	...
Unity Valley	3.18	5.33
Albion	3.94	5.85
Bradfield	1.29	5.05
Drax Hall	1.43	3.81
Seville	1.45	...
Richmond Estate	1.67	...
Llandovery	1.47	...
Mean	3.45	6.01

NORTHERN DIVISION.

AUGUST.

	1883.	Average.
	In.	In.
Lillyfield	1.44	...
Home Castle	4.45	...
Richmond Pen	6.91	...
Colchis Pen	6.86	...
Mahogany Hall	5.16	...
Hopewell	4.60	5.50
Brampton Bryan	3.96	4.64
Bryan Castle	1.32	3.54
Nightingale Grove	5.28	...
Braco	3.89	3.88
Arcadia	4.24	...
Harmony Hall	2.85	...
Lancaster	3.66	3.87
Vale Royal	6.89	5.44
Hyde Hall	4.61	...
Hyde	3.25	...
Swanswick	3.28	...
Long Pond	5.29	...
Georgia	5.99	4.64
Steelfield	5.31	...
Etingdon	5.20	...
Oxford	4.68	...
Cambridge	4.60	...
Spring	2.19	...
Lottery	3.21	3.96
Pembroke	5.80	...
Falmouth	2.92	3.00
Holland	3.04	...
Golden Grove	6.35	...
Fontabelle	8.90	...
Green Park	4.00	...
Tilston	9.87	...

NORTHERN DIVISION *continued.*

		AUGUST.	
		1883.	Average.
		In.	In.
Orange Valley	Trelawny	2.31	3.57
Kent	...	2.53	...
Dundee	...	4.25	5.36
Gales Valley	...	8.00	6.88
Hampden	St. James	5.19	...
Greenwood	...	2.20	...
Lima	...	...	...
Content	...	...	5.58
Gaillsbro'	...	2.60	...
Spring Vale	...	9.27	12.84
Latium	...	1.77	...
Success	...	2.91	2.59
Cinnamon Hill	...	...	...
Rose Hall	...	...	...
Running Gut	...	2.61	2.33
Tryall	...	3.28	...
Irwin	...	...	6.40
Ironshore	...	2.35	...
Providence	...	2.80	...
Catherine Hall	...	7.83	...
Catherine Mount	...	5.90	8.31
Fairfield	...	5.88	...
Mean		4.53	5.31

WEST CENTRAL DIVISION, *continued.*

		AUGUST.	
		1883.	Average.
		In.	In.
Carawina	Westmoreland	...	...
Sweet River	...	8.37	...
Paradise Pen	...	9.45	...
Roaring River	...	...	...
Fort William	...	15.26	...
Mackfield	...	18.79	...
Mesopotamia	...	...	...
Cornwall	...	...	...
Windsor (Sav.-la-Mar)	...	9.64	...
Fontabelle	...	12.85	...
Frome	...	11.18	...
Belle Isle	...	15.18	...
Grange Hill	...	...	...
Retreat	...	7.88	...
Point	...	...	...
Kew Estate	...	8.48	...
Haughton Court	Hanover	5.76	...
Orange Cove	...	5.27	7.45
Prospect	...	...	...
Haughton Hall	...	7.74	...
Abingdon	...	7.12	...
Phoenix	...	...	...
Mean		9.04	9.22

WEST CENTRAL DIVISION.

		AUGUST.	
		1883.	Average.
		In.	In.
Linstead	St. Catherine	3.09	...
Worthy Park	...	2.10	...
Lloyds	...	...	...
Chapelton	Clarendon	...	10.28
Pennants	...	...	...
Whitney	...	5.63	...
Cave Valley	St. Ann	5.41	8.68
Hanbury	Manchester	3.80	...
Mandeville	...	...	10.60
Marshall's Pen	...	5.94	...
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	13.71	...
Appleton	...	18.65	...
Maroon Town	St. James	...	...
Holland	St. Elizabeth	7.62	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	12.31	...
Mount Charles	...	6.47	...
Mount Edgewcombe	Westmoreland	8.89	...
Windsor Forest	...	15.09	...
Kew Park	...	14.08	...
Hazelymph	St. James	...	...
Chester Castle	Hanover	12.19	...
Copse	...	7.70	...
Burnt Ground	...	7.65	...
Haughton Grove	...	10.40	...
Kempshot	St. James	4.91	...
Bandon	...	...	...
Anchovy	...	6.70	...
Wiltshire	...	8.66	...
Round Hill	Hanover	6.06	...
Cacoon Castle	...	10.35	...
Sod Hall Pen	...	9.15	...
Golden Grove	...	...	...
Tryall	...	3.06	...

SOUTHERN DIVISION.

		AUGUST.	
		1883.	Average.
		In.	In.
Albion Hospital	St. Thomas	1.20	...
The Abbey	...	3.17	...
Halberstadt	St. Andrew	1.40	...
Hope Plantation	...	6.31	8.13
Constant Spring	...	...	...
Cherry Garden	...	8.21	...
King's House	...	8.29	...
Monaltrie	...	6.65	6.36
Public Works Office, Kingston	...	6.45	6.01
Palisadoes Plantation	...	2.64	...
Plumb Point L. H.	...	3.35	5.32
Ewing's Caymanas	St. Catherine	...	...
Spanish Town	...	6.36	...
Windsor Park	...	...	...
Hog Hole Pen	...	5.34	...
Headworks, R. C. C.	...	6.68	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	6.25	...
Old Harbour	...	3.73	...
Springfield	...	1.17	...
Experiment	Clarendon	...	...
The Bog	...	0.63	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	1.60	5.80
Farm Plantation	Manchester	3.55	...
Great Valley	...	2.72	...
Stones Hope	...	3.49	...
Pepper	St. Elizabeth	...	...
Long Hill	...	11.07	...
Gilnock Hall	...	10.76	...
Santa Cruz	...	10.91	...
Bloomsbury	...	8.89	...
Black River	...	2.47	7.21
Hodges	...	3.82	...
Font Hill	...	...	...
Mean		5.02	6.42

COMPARATIVE TABLE.
(Based upon the "Average" Stations only.)
AUGUST.

	1883.	Average.
	In.	In.
North Eastern Division	2.38	6.01
Northern "	4.48	5.31
West Central "	5.53	9.25
Southern "	4.09	6.42
The Island	4.12	6.75

The Rainfall for August was therefore below the average. Many places in the Northern Division had their average, however, and there were heavy rains at several places in the West Central Division. But in the Southern Division, the district of Vere and the south part of Manchester have suffered severely from drought.

At Appleton in St. Elizabeth nearly 19 inches fell: the largest August fall since the register was commenced in 1878.

At Cherry Garden in St. Andrew 4 inches fell in two or three hours on the 26th.

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 2.66 and 3.35 inches respectively.

Captain Kennedy sends me the following weather-table for the Morant Point Light House:—

August.	Rainfall.	Wind	Force.
1883.	In.	Direction.	
6th	0.50	S.E.	Fresh squally.
15th	0.25	Ely.	Mod. do
20th	0.18	do.	do do.
24th	0.09	N.E.	Light.
25th	0.85	S.E.	Hard squall.
	1.87		

ASTRONOMICAL NOTES.

SUN-SPOTS AND SOLAR RADIATION.

More important work and unfavourable weather interrupted the observations of the Solar Radiation. The following table of the Sun-spots gives us the means, however, of computing the mean Radiation for August, namely 9.°54 according to the previous notation.

KEMPSHOT: AUGUST, 1883.

Mean Time.		Groups of Sun-spots.	Number of Sun-spots.	Combination Number.
Day.	Hour.			
1	18	2	9	23
2	18	1	6	12
3	19	3	7	32
4	21	2	3	21
5	19	2	5	29
8	22	3	12	34
9	22	3	15	36
10	22	5	13	64
11	22	4	17	46
16	19	5	13	54
17	19	5	16	55
18	22	4	18	46
19	19	5	13	54
21	19	3	20	37
23	19	4	18	46
24	19	5	21	57
25	19	4	30	50
26	20	4	41	54
27	19	4	42	54
28	19	5	47	66
29	19	6	56	79
31	20	9	72	114
Means		4.0	22.5	47.5

The Radiation during August was therefore less than the Radiation during July which was 10.°03.

STORM WARNINGS.

Attention was called in Jamaica to the unsettled state of the weather by the circular telegram on the morning of the 6th September. As the day advanced it became evident that a Cyclone was passing south of Jamaica; and in consequence of its apparent influence on the Barometer at Santiago de Cuba, it was considered a large Cyclone. At 2.30 p.m. on the 6th the first telegram to Washington was despatched from the Kempshtot Observatory to the effect that a large Cyclone was then south of Jamaica travelling on a west north-westerly course.

This course was traced on the chart at the time, and subsequently it was found that the Royal Mail steamer "Para," coming to Jamaica from Colon, crossed the storm-track in Lat. 16° N., Long. 77° 30' W., about thirty hours after the storm had passed:—a large number of land-birds were seen, and the storm-track was strewn with debris, such as broken branches of trees.

As soon as this Cyclone had passed, it became evident at 9 p.m. on the 6th September that there was another Cyclone to the north of Jamaica: this caused anxiety, especially as all the telegraph offices were then closed. However, the second telegram to Washington was sent on the morning of the 7th, and Kingston was notified that afternoon that all disturbance had passed.

It was this second Cyclone which had affected the barometer at Santiago de Cuba on the 6th; the southern Cyclone was but small; it may have died out, or we may hear of it again off the west end of Cuba; of the northern one we shall probably have disastrous accounts.

MAXWELL HALL.

Kempshtot, Sept. 15th, 1883,
Montego Bay, P.O.